



United States Department of Agriculture

Land and Resource Management Plan for the Prescott National Forest

Yavapai and Coconino Counties,
Arizona



Forest
Service

Southwestern
Region

MB-R3-09-04

June 2015

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TTY). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TTY). USDA is an equal opportunity provider and employer.

Printed on recycled paper – June 2015

Land and Resource Management Plan for the Prescott National Forest

**Coconino and Yavapai Counties,
Arizona**

Contents

Commonly Used Acronyms	iii
Chapter 1. Introduction	1
Location	1
Role and Contributions of the Planning Area	1
Prescott National Forest Mission and Vision	4
Planning Framework	4
Needs for Change	5
1987 Plan Direction Included in the Revised Plan	7
1987 Plan Direction Not Included in the Revised Plan	7
Decisions Made in the Plan	7
Plan Organization	8
Concept Descriptions to Improve Reader Understanding in the Revised Plan	9
Chapter 2. Forestwide Desired Conditions	15
Introduction	15
Physical Resources	16
Biological Resources	24
Social and Economic Resources	45
Chapter 3. Objectives	55
Introduction	55
Vegetation	56
Recreation	60
Watersheds	64
Aquatic and Terrestrial Wildlife Habitat	66
Open Space, Land Adjustment, and Scenic Values	68
Chapter 4. Standards and Guidelines	71
Introduction	71
Physical Resources	72
Biological Resources	74
Social and Economic Resources	81
Chapter 5. Management Area Direction	97
Introduction	97
Agua Fria/Crown King Geographic Area	100
Agua Fria Management Area	102
Crown King Management Area	103
Prescott/Chino/Drake Geographic Area	105
Upper Verde Management Area	106
Williamson Valley North Management Area	108
Williamson Valley South Management Area	109
Prescott Basin Management Area	110
Verde Valley Geographic Area	112
Verde Valley Management Area	114
Chapter 6. Monitoring and Evaluation	117
Introduction	117
Monitoring Strategy	118
Chapter 7. Suitability	127
Introduction	127
Timber Suitability	128
Range Suitability	129
Recreation Suitability	133

Chapter 8. Additional Plan Direction	135
Introduction	135
Project Consistency with the Plan	135
Changes to the Plan	139
Other Sources of Direction	139
List of Preparers	142
Glossary	144
References	152
Appendix A. Maps.....	155
Appendix B. Proposed and Probable Management Practices	163
Introduction	163
Management Approaches	163
Probable Projects	166
Appendix C. Community Landscape Vision Statements	171
Introduction	171
Community Landscape Vision Statements	171
Appendix D. Index of Other Supporting Plan Documentation	181

List of Figures

Figure 1. Vicinity map of the Prescott NF	3
Figure 2. Visual example of a plan decision	9
Figure 3. Map of geographic areas and management areas on the Prescott NF	99
Figure 4. Elements of an “Adaptive” Management Cycle.....	118
Figure 5. Large area grazing exclusions	132

List of Tables

Table 1. Example of the hierarchal structure in hydrologic units	11
Table 2. Potential natural vegetation types (PNVTs) of the Prescott NF	26
Table 3. Management concerns for the PNVTs of the Prescott NF	27
Table 4. Geographic and management areas on the Prescott NF	98
Table 5. Monitoring Questions.....	121
Table 6. Timber suitability on the Prescott NF (in acres)	128
Table 7. Grazing capability on the Prescott NF (in acres)	129
Table 8. Grazing suitability on the Prescott NF (in acres)	131
Table 9. Recreation Suitability Matrix	134

Cover page photos:

Mexican spotted owl (courtesy of Brian Wooldridge, U.S. Fish and Wildlife Service), petroglyphs, mountain bike event, community vision meeting, Youth Conservation Corps, Sycamore Creek, prescribed fire, and grassland monitoring.

Commonly Used Acronyms

ADEQ – Arizona Department of Environmental Quality

AMS – Analysis of the Management Situation

ASQ – allowable sale quantity

AZGFD – Arizona Game and Fish Department

BLM – Bureau of Land Management

CFR – Code of Federal Regulations

EPA – Environmental Protection Agency

ESA – Endangered Species Act

FR – Federal Register

FSM – Forest Service Manual

GIS – geographic information system

HUC – hydrologic unit code

IRA – inventoried roadless area

MVUM – motor vehicle use map

NEPA – National Environmental Policy Act

NF – national forest

NFMA – National Forest Management Act

NFS – National Forest System

OHV – off-highway vehicle

ORV – outstandingly remarkable values

PFA – post-fledging family area

PNVT – potential natural vegetation type

ROS – recreation opportunity spectrum

SIO – scenic integrity objective

TES – Terrestrial Ecosystem Survey

USDA – U.S. Department of Agriculture

USFWS – U.S. Fish and Wildlife Service

WUI – wildland-urban interface

Chapter 1. Introduction



Community vision meetings during Forest Plan Revision

Location

The Prescott National Forest (Prescott NF) is one of six national forests in Arizona (figure 1). It covers approximately 1.2 million acres in west-central Arizona and is located in Yavapai and Coconino Counties. The Prescott NF consists of two geographically separate land areas (eastern and western) that are administered as three ranger districts: the Chino Valley Ranger District, which covers the areas east and west of Chino Valley; the Bradshaw Ranger District, which covers the area near Prescott and south into the Bradshaw Mountains; and the Verde Ranger District, which covers the area just north of Jerome and Clarkdale and along the southern side of the Verde Valley. The Prescott NF shares boundaries with: the Coconino, Kaibab, and Tonto National Forests; the Agua Fria National Monument; Bureau of Land Management - Hassayampa Field Office; Arizona State Trust lands; and several communities including Prescott, Camp Verde, and Cottonwood.

Role and Contributions of the Planning Area

The Prescott NF is located in a comparatively mountainous section of central Arizona between the forested plateaus to the north and the arid desert region to the south. Roughly half of the Prescott NF lies west of the city of Prescott, Arizona, in the Juniper, Santa Maria, Sierra Prieta, and Bradshaw Mountains. The other half of the Prescott NF lies east of Prescott and takes in the

terrain of Mingus Mountain, the Black Hills, and Black Mesa. Elevations range between 3,000 feet above sea level along the lower Verde Valley to 7,979 feet at the top of Mount Union, the highest natural feature on the national forest.

Water Resources: The purpose of the original forest reserves, now part of the Prescott NF, was to protect and conserve water supplies for central Arizona. The rugged topography of the Prescott NF provides important watersheds for both the Verde and Colorado River systems. Within these watersheds are many important continuously or seasonally flowing stream courses and drainages which provide riparian habitat for aquatic species, including native fish; water supply to local communities, including the Phoenix metropolitan area downstream; and destinations for visitors to enjoy water-based recreation such as kayaking and fishing.

Vegetation: The vegetation on the Prescott NF is complex and diverse. South of the Bradshaw Mountains, there is Sonoran desert dominated by saguaro cacti and paloverde trees. Less than 10 miles upslope from the desert, there are cool mountain forests where conifer trees grow. In between, there are a variety of plant and animal habitats including grasslands, chaparral, piñon-juniper woodlands, and ponderosa pine forests.

Wildlife: There is a variety of wildlife species found on the Prescott NF that offer opportunities for wildlife viewing, hunting, or fishing including: elk, black bear, javelina, pronghorn antelope, mule deer, cougar, bobcat, coyote, bald eagle, roadrunner, turkey, rattlesnake, jackrabbit, rainbow trout, largemouth and smallmouth bass, and roundtail chub. In addition, the forest provides habitat for several federally listed species including: Southwestern willow flycatcher, Mexican spotted owl, yellow-billed cuckoo, Gila chub, Gila trout, and spikedace.

Recreation: A variety of year-round recreation opportunities exist on the Prescott NF. Visitors and local citizens alike enjoy having such opportunities nearby, and during the summer, recreate in the Prescott NF where temperatures are moderate. In the winter, people visit the Verde Valley and other snow-free areas to recreate where temperatures are mild. Increases in population have led to increased demand in trails and other recreation opportunities. If climate changes include continuing increases in temperatures, it is likely that there will also be increases in recreation visitors from hotter areas such as Phoenix. In addition to a host of trails and campgrounds, the Prescott NF has several unique recreation opportunities, including: a hang-glider site atop Mingus Mountain; Alto Pit and Hayfield Draw Off-highway Vehicle (OHV) recreation sites; Granite Mountain National Recreation Trail; General Crook National Historic Study Trail, a portion of the Great Western Trail, which traverses the western U.S. from Mexico to Canada; gold panning on Lynx Creek; and three historic Forest Service buildings which are a part of the “Rooms with a View” cabin rental program. The Prescott NF contains several heritage sites which are protected for their unique cultural values; a couple of popular sites for visitors include the Lynx Creek Ruin and Charcoal Walker Kilns.

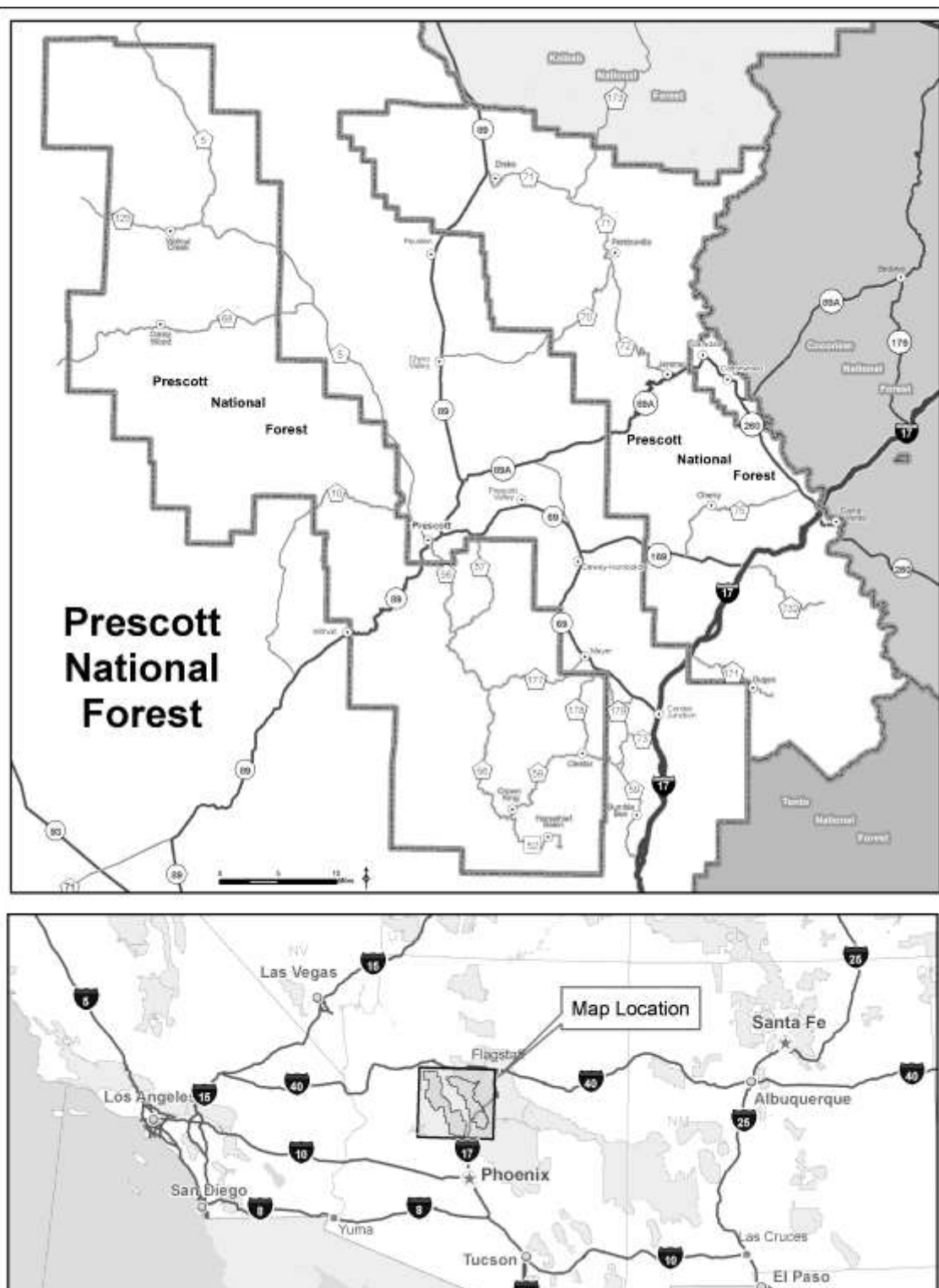


Figure 1. Vicinity map of the Prescott NF

Special Areas: Eight designated wilderness areas—including Pine Mountain Wilderness which is shared with the Tonto NF and Sycamore Canyon Wilderness which is shared with the Coconino and Kaibab NFs—are scattered across the Prescott NF and provide locations where visitors can enjoy primitive recreation experiences. The 800-acre Grapevine Botanical Area, located in the Bradshaw Mountains south of Prescott, contains 12 perennial springs and supports a distinctive alder-walnut vegetative community. Portions of the Verde River have been designated as a part of the National Wild and Scenic Rivers System.

Uses and Products: Mining has taken place in the mountains within the Prescott NF dating back to the mid-1800s, and today, there is continued interest in both commercial and recreational mining activities. Livestock grazing is also a historical use of the forest which continues today across the forest's 68 allotments. Additionally, the Beaverhead-Grief Hill Sheep Driveway bisects the eastern end of the forest and is still used to move sheep from desert rangelands in southern Arizona to forested rangelands atop the Mogollon Rim. Forest products such as wood fiber, firewood, and Christmas trees are obtained from the forest and contribute to local communities' social, economic, and cultural needs. Several mountaintops on the Prescott NF—including Mount Frances, Towers Mountain, Mingus Mountain, and Squaw Peak—are used, under permit, as sites for government and commercial communication towers.

Prescott National Forest Mission and Vision

The nationwide mission of the Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. The overall goal of managing [National Forest System](#) lands is to sustain the multiple uses of its resources in perpetuity, while maintaining the long-term productivity of the land.

The Prescott NF's mission is to effectively and efficiently manage National Forest System lands and resources to meet the needs and desires of the public, while enhancing the environment. We foster a collaborative environment internally and externally that values dialogue, community engagement, partnerships, and public education to achieve our stewardship responsibilities within and beyond the Prescott NF's boundaries.

Our vision is to manage the cultural and natural resources of the Prescott NF to provide healthy watersheds, outdoor recreational opportunities, open space, scenery, and traditional uses that sustain the social and economic structure and stability of our communities.

Planning Framework

The "Land and Resource Management Plan for the Prescott National Forest" (hereinafter referred to as the plan) is intended to produce responsible land management for the Prescott NF based on useful and current information and guidance. The plan guides the Forest Service in carrying out its responsibilities for stewardship under the sustainable multiple-use management concept—which is to meet the diverse needs of people, while also protecting the resources of the Prescott NF. Land management plans are required by the National Forest Management Act (NFMA) of 1976 (P.L. 94-588) and the Multiple Use–Sustained Yield Act (MUSYA) of 1960 (P.L. 86-517).

Sustainable multiple-use management means that various activities that have social or economic value may take place, while ecosystem processes and biological characteristics continue to fulfill their natural rhythm of change over time. In order to do that, management needs to be adaptable.

As activities take place, awareness of trends helps to determine needed modification of management actions.

The plan provides broad guidance and information for project and activity decisionmaking on the Prescott NF. The plan has these characteristics:

- It is strategic in nature. It does not include project level decisions. Those decisions are made later, only after specific proposals are identified and analyzed and there is the opportunity for public involvement.
- It includes the following plan components: desired conditions (or goals), objectives, suitability of areas, special areas, standards, guidelines, and a monitoring strategy.
- It is intended to be adaptive, in that new knowledge and information can be analyzed and the plan changed, if appropriate, at any time. Changes to plan components may require an amendment.
- It honors the continuing validity of private, statutory, or preexisting rights.

Needs for Change

In the “Analysis of the Management Situation” (AMS) (Forest Service, 2009b), the Prescott NF evaluated how management under its existing land management plan (the 1987 plan), as amended, was affecting conditions and trends related to the sustainability of ecological, economic, and social factors. The AMS summarizes key findings from both the “Ecological Sustainability Report” (ESR) (Forest Service, 2009c) and the “Economic and Social Sustainability Assessment” (ESSA) (Forest Service, 2008)—two detailed reports which were developed previously by the Prescott NF to identify current conditions and probable future trends. These documents, and all documents associated with the revision of the plan, can be viewed and downloaded from the Prescott NF plan revision Web site¹.

Potential needs for change identified in the AMS were developed by integrating the key needs for change from ecological concerns in the ESR with the key needs for change from economic and social concerns in the ESSA. This integration considered the Prescott NF recreation niche; the Prescott NF contribution to social, economic, and ecological sustainability; the Forest Service mission; input from public meetings and informal conversations; and community visions.

Internal review of the integrated key findings resulted in a list of eight needs for change topics (Forest Service, 2009b, pp. 32-33). After discussions about the integrated needs for change and the capacity of the Prescott NF, the forest leadership team identified five priority needs for change topics that were recommended to focus the scope of this plan revision.

The five needs for change topics and a brief rationale for the selection of each are listed below:

- 1. Restore vegetation structure and composition and desired characteristics of fire to selected ecosystems, while responding to citizen concerns related to smoke emissions.**

The [restoration](#) of desired vegetative characteristics addresses the following: (1) risk of severe wildland fire that could damage soils, cause uncharacteristic changes in vegetation

¹ www.fs.usda.gov/land/prescott/landmanagement

communities, and impact human health and safety, especially within the [wildland-urban interface \(WUI\)](#); (2) changes in [ecosystems](#) that could affect diversity of plant and animal species, such as spread of invasive plant species or changes in vegetation structure; and (3) identification of desired characteristics of fire as a disturbance, including frequency, severity, intensity, size, and seasonality, for ecosystems that are sustained by fire.

Mitigation of smoke that flows into communities primarily due to [prescribed fires](#) is a connected social concern.

2. Retain or improve watershed integrity to provide desired water quality, quantity, and timing of delivery.

Addressing this need would: provide improved water quality for human health and safety; move watersheds toward maintaining water quantity for both municipal watersheds and maintenance of aquatic and riparian species habitat; and provide timing of delivery that is commensurate with healthy soil and biological function and natural geomorphology.

3. Provide sustainable and diverse recreation opportunities that consider population demographic characteristics, reflect desires of local communities, avoid overcrowding and user conflicts, and minimize resource damage.

Providing sustainable recreation opportunities was the number one concern at public meetings in both the Verde Valley and Prescott areas. With increasing population and numbers of visitors to the Prescott NF, conflicts between various types of activities, overcrowding, and overuse leading to resource impacts need to be addressed.

4. Provide desired habitat for native fish species.

Native fish and other aquatic species are in decline in some watersheds. Furthermore, native aquatic species are no longer known to be present in five watersheds where historically they were present. In order to assist in responding to the decline in native fish species, the Prescott NF can provide habitat and watershed characteristics that will support these species. It could also partner with the State of Arizona in addressing control of nonnative species.

5. Enhance the value of open space provided by the Prescott NF by defining the visual character within areas near or viewed by those in local communities.

Retention of open space (i.e., undeveloped land near or within sight of local communities) is highly valued by citizens for its scenic value and contribution to low population density. The Prescott NF has a unique opportunity to enhance value and identify desired visual character on its lands as population density may increase on other ownership.

Three other topics were considered as needs for change during management review but were recommended for deferral as topics for plan revision. A complete list of the deferred needs for change topics is included in appendix B of the AMS.

Along with new or deferred needs for change topics, new information and changing conditions may call for changes in management. As these needs become ripe for action, iterative and adaptive planning will facilitate the incorporation of new information into potential plan amendments. This adaptive planning approach is in accordance with NFMA which requires the

Forest Service to amend the plan, if necessary, every 10 to 15 years to reflect changing land management needs. This document represents the revised “Land and Resource Management Plan for the Prescott National Forest” (revised plan), and it focuses on the identified needs for change thus far.

This revised plan was completed using direction from the 2012 Planning Rule; the transition provisions of that rule allow use of the provisions of the 1982 Planning Rule to revise land management plans. This revised plan uses the provisions of the 1982 Planning Rule.

1987 Plan Direction Included in the Revised Plan

Some components of the 1987 plan, including some of its amendments, are still adequate and timely and have been carried forward into the revised plan.

1987 Plan Direction Not Included in the Revised Plan

Other components of the 1987 plan have been modified or removed, for reasons including: they describe a purely administrative or procedural function; they duplicate direction that can be found in existing law, regulation, or Forest Service policy; they are based on outdated policies, science, or information; or they include out-of-date terminology. In addition, some standards and guidelines in the 1987 plan will not be included in the revised plan because they: were unnecessarily prescriptive about how to accomplish a project; did not support attaining desired conditions or accomplishing objectives; or were duplicative. Finally, much of the monitoring and evaluation guidance in the 1987 plan focuses solely on outputs rather than overall progress toward the desired conditions (or goals).

Decisions Made in the Plan

Plan decisions (also referred to as plan components) include: desired conditions/goals, objectives, standards, guidelines, suitability of uses, special areas, and monitoring.

Desired conditions (or goals) describe the picture for the future of the Prescott NF. They are the social, economic, and ecological attributes toward which management of the land and resources of the plan area is directed. They are aspirations and not commitments or final decisions which approve projects or activities, and they may only be achievable over a long period. “Goals,” as required by the 1982 Planning Rule Provisions, are articulated as “desired conditions” in this plan.

Objectives describe how the Forest Service intends to achieve desired conditions for the Prescott NF. Objectives are concise projections of measurable, time specific intended outcomes. Objectives are the work that we think needs to be done and the means of achieving or maintaining desired conditions.

Standards are constraints that apply when an action is being taken to make progress toward desired conditions. The direction in a standard must be followed exactly, including the intent of the standard. Deviation from a standard requires a plan amendment.

Guidelines are also constraints that should apply when an action is being taken to make progress toward desired conditions. A guideline must be followed, however, unlike a standard, it may be modified somewhat for a specific project if the intent of the guideline is followed and the deviation is addressed in a decision document with supporting rationale. When deviation from a guideline does not meet the original intent, a plan amendment is required.

Special areas are lands within the National Forest System (NFS) which have designations by Congress or other delegated authority. Special areas are designated because of their unique or special characteristics. Examples include: wilderness, wild and scenic rivers, research natural areas, botanical areas, and national recreation trails.

Suitability refers to NFS lands which are identified as “suitable” for various uses. An area may be identified as suitable or not suitable for certain uses depending on its compatibility with desired conditions and objectives for the area. The 1982 Planning Rule Provisions require that suitability for timber, range, and recreation must be addressed.

Monitoring is the part of the adaptive management strategy used to determine the degree to which on-the-ground management is maintaining or making progress toward desired conditions. The monitoring plan includes questions and performance measures designed to inform implementation and evaluate effectiveness.

Plan Organization

Chapter Organization

This plan is organized into the following chapters:

Chapter 1: Introduction to briefly describe the planning area, the analysis of the management situation, the purpose of this plan, and the plan decisions and how they are distributed throughout the plan. This chapter does not contain plan decisions.

Chapter 2: Desired conditions (i.e., goals) that apply to all of the Prescott NF and include descriptions of desired outcomes as a result of Forest Service management.

Chapter 3: Objectives are a list of measurable, time-specific actions intended to help the Prescott NF achieve the desired conditions described in chapter 2.

Chapter 4: Standards and guidelines in this chapter apply to all Prescott NF lands and provide direction for future site-specific projects.

Chapter 5: Management area direction provides desired conditions, standards, and guidelines that apply to specific areas of the Prescott NF.

Chapter 6: Monitoring and evaluation supports the adaptive management strategy for determining the degree to which on-the-ground management is maintaining or making progress toward desired conditions.

Chapter 7: Suitability of acreages for timber and range as well as recreation opportunity suitabilities are found in this chapter.

Chapter 8: Additional plan direction includes direction which is not a part of the plan decisions but nevertheless must be followed to implement the plan. These include: (1) projects' consistency with the plan, (2) changes to the plan, and (3) other vital documents which must be followed to implement the plan.

Organization of Plan Decisions

Plan decisions are contained in chapters 2 through 7 and are visually distinguished within boxes. Information not included in these boxes (e.g., introduction and background sections within chapters 2 through 7) are not plan decisions; they provide additional information or further clarification about the plan decisions.

To reference plan decisions more easily, a numbering scheme is used in the plan consisting of three parts: (1) type of plan decision (e.g., a desired condition, objective, guideline); (2) resource area (e.g., vegetation, recreation, heritage); and (3) number. Abbreviations are used to shorten these labels. The following examples illustrate this scheme: "DC-Veg-1" relates to the first listed desired condition for vegetation; "Obj-7" relates to the seventh objective listed²; and "Guide-AF MA-1" relates to the first listed guideline for the Agua Fria Management Area. See Figure 2 below for an example.

DC- ResourceArea-1	<ul style="list-style-type: none"> • Plan decision language.
-----------------------	---

Figure 2. Visual example of a plan decision

Hypertext

Hypertext is used throughout the plan; it allows the user of the electronic version of this plan to click on a word (indicated by underlined text, for example [glossary](#)) and be redirected to another area of the plan or an external reference. Users can then click on the word again and be redirected back to their original location. The first occurrences of words that are found in the glossary are hyperlinked.

Concept Descriptions to Improve Reader Understanding in the Revised Plan

This section was placed in the introduction in an effort to respond to questions and feedback we received related to technical terminology and concepts that were used in development of this plan. By gaining some understanding of these concepts early on, plan clarity may be improved. The concepts are organized according to the five needs for change statements.

Need for Change Statement 1

Restore vegetation structure and composition and desired characteristics of fire to selected ecosystems, while responding to citizen concerns related to smoke emissions.

² The numbering scheme for objectives does not include abbreviations for individual resource areas.

Vegetation structure and composition and the frequency and severity of disturbances (e.g., fire) need to be modified to restore and maintain the health and sustainability of terrestrial ecosystems.

Concepts for Understanding

During plan revision efforts, a framework was needed to classify and map areas on the Prescott NF based on associations of ecological factors. The Prescott NF used **Potential Natural Vegetation Types (PNVTs)** as a basis for classifying and mapping similar units of vegetation, soil, climate, and disturbance on a forestwide scale. The PNVT classifications were developed from data available in the “[Terrestrial Ecosystem Survey](#) of the Prescott National Forest” (Robertson et al., 2000) and from information on vegetation dynamics and natural variability compiled by The Nature Conservancy³ and the Landscape Fire and Resource Management Planning Tools Project⁴ (commonly called LANDFIRE).

PNVTs represent the vegetation type and characteristics that would occur when natural disturbance regimes and biological processes prevail. Each PNVT can be described by its unique ecosystem dynamics, made up of “states” and “transitions.” States describe the life forms, composition, age or size, and relative density of the vegetation at different life stages. Transitions are events that modify the existing vegetation in various ways based on their magnitude, frequency, and extent. Transitions also include biological processes such as growth, development, and death. A “states and transitions” framework allows for simulating and testing vegetative dynamics using computerized models.

[Reference conditions](#) that identified the relative amount of each state, and the frequency of transitions between states, were estimated based on scientific literature (Schussman and Smith, 2006) and Forest Service experience within the western U.S. (Hann et al., 2008). Comparisons of the current situation to these reference conditions and the desired conditions were made to identify the extent of departure for each PNVT. The level of departure for the PNVTs was considered during development of the objectives in chapter 3.

Need for Change Statement 2

Retain or improve watershed integrity to provide desired water quality, quantity, and timing of delivery.

Watershed condition is defined as the state of a watershed based on physical and biological characteristics and processes affecting hydrologic and soil functions. Watershed condition integrity is a wholeness or completeness of the watershed function in providing water quality, quantity, and timing of delivery. It is influenced by soil function, biological function, and geomorphology. In addition, vegetation structure and composition, disturbance regimes, and recreation activities can all affect watershed integrity.

Concepts for Understanding

During any discussion of watersheds, scale needs to be identified. The U.S. Geological Survey has created a hierarchical method of mapping and identifying watersheds using [hydrologic units](#),

³ www.azconservation.org/downloads/category/southwest_regional/

⁴ www.landfire.gov

identified by hydrologic unit codes (HUCs). Within this method, the numbers used for HUCs increase as the size of the watershed decreases (see table 1 for an example of this hierarchy). Within the Prescott NF, twenty-two 5th level hydrologic units (watersheds) help to make up eight 4th level hydrologic units (subbasins) that overlap the Prescott NF to some degree.

Table 1. Example of the hierarchal structure in hydrologic units

Hydrologic Unit	Level	Hydrologic Unit Code	Example
Region	1 st level hydrologic unit	15	Colorado River
Subregion	2 nd level hydrologic unit	1506	Salt River
River Basin	3 rd level hydrologic unit	150602	Verde River
Subbasin	4 th level hydrologic unit	15060202	Upper Verde
Watershed	5 th level hydrologic unit	1506020207	Cherry Creek
Subwatershed	6 th level hydrologic unit	150602020701	Bitter Creek

In preparation for plan revision, watershed conditions were analyzed at the 4th, 5th, and 6th level hydrologic units. Desired conditions were developed to cover all three levels. At the 4th and 5th levels, only a portion of most hydrologic units overlap with Prescott NF land ownership. Although the 5th level units range from about 150 to 360 square miles in size, the watershed integrity objectives only refer to the 1 to 230 square mile portions within the boundaries of the Prescott NF. Map 2 in appendix A displays the 5th level units (watersheds) that intersect the Prescott NF.

Need for Change Statement 3

Provide sustainable and diverse recreation opportunities that consider population demographic characteristics, reflect desires of local communities, avoid overcrowding and user conflicts, and minimize resource damage.

With increasing populations and numbers of visitors to the Prescott NF, conflicts between types of activities, overcrowding, and overuse leading to resource impacts need to be addressed.

Concepts for Understanding

The **Recreation Opportunity Spectrum (ROS)** is a classification system that identifies a continuum of settings, activities, and recreation experiences. It is used to inventory and classify large areas based on national criteria involving physical, social, and managerial attributes. The ROS map can be found in appendix A (map 3). For the most part, it classifies recreation opportunities as they exist. The classifications range from remote and undeveloped (primitive) settings to populated and developed settings (urban). These are based on a number of factors, including access, remoteness, social encounters, amount of visitor management, type of recreation development, and extent of visitor impacts. The ROS classifications are as follows:

- **Primitive (P)** - The experience includes isolation from manmade sights, sounds, and management controls in an unmodified environment. Motorized use is not present. There

is no primitive classification on the Prescott NF because there are no areas on the forest that meet the criteria.

- **Semiprimitive Nonmotorized (SPNM)** - There is some isolation from manmade sights, sounds, and management controls in a predominantly unmodified environment. Few visitors are present, but some evidence of use is expected. Motorized use is rare or not present.
- **Semiprimitive Motorized (SPM)** - This is very similar to semiprimitive nonmotorized except that both motorized and nonmotorized use is present.
- **Roaded Natural (RN)** - There are about equal opportunities for isolated experiences and opportunities to interact with other groups. The landscape is generally natural. Onsite managerial controls are subtle. Both motorized and nonmotorized use is present. The expectation is that visitors will drive to facilities.
- **Roaded Modified (RM)** - The natural environment is substantially modified by management activities such as mining and utility corridors. Some evidence of other users is likely.
- **Rural (R)** - The natural environment is substantially modified. Interactions with other visitors prevail. Sights and sounds of people are readily evident and user numbers are moderate to high.
- **Urban (U)** - A substantially urbanized area is present, although the background may have natural elements. There are high levels of human activity, concentrated development, and developed sites and roads are designed for high use.

Need for Change Statement 4

Provide desired habitat for native fish species.

Native fish and other aquatic species are in decline within several watersheds. Native aquatic species are no longer found in five watersheds that overlap with the Prescott NF. The Prescott NF can provide habitat and watershed characteristics that will support native fish species. The Forest Service can also cooperate with the State of Arizona in addressing control of nonnative species.

Concepts for Understanding

The Forest Service is required to plan for retaining **species diversity** and to provide habitat needed to maintain **viable**, well distributed populations of existing native and desired nonnative species within the functional capacity of the landscape (FSM 1926.15, requirement 13). Species diversity is a measure of the number of species in an ecological community and the range or variation in the abundance of individuals per species within the community. A viable population is one that has the estimated numbers and distribution of reproductive individuals to ensure its continued existence is well distributed within the planning area. All else being equal, communities with more species are considered to be more diverse.

For species affected by Forest Service management, potential threats that could impact species' distribution and abundance were identified and screened to determine which species warrant more detailed consideration in the plan. For many species, trending toward aquatic and vegetative desired conditions listed in chapter 2 will maintain species diversity and viability. For others,

specific plan components, such as objectives or standards and guidelines were developed to respond to diversity or viability concerns.

Need for Change Statement 5

Enhance the value of open space provided by the Prescott NF by defining visual character within areas near or viewed by those in local communities.

The Forest Service has an opportunity, via the plan, to ensure that open space and scenic values are taken into consideration on Prescott NF lands as population density is expected to increase on other ownerships.

Concepts for Understanding

The **Scenery Management System (SMS)** provides a systematic approach for determining the relative value and importance of scenery on national forest lands. It analyzes a landscape's attractiveness, visibility, [intactness](#), and value to the public to determine the scenic integrity objective (SIO) for the area. Map 4 in appendix A displays the SIOs for the Prescott NF. An area with a very high or high SIO has highly-valued scenic qualities and its integrity should be maintained. Within areas of high or medium SIOs, guidelines help retain scenic qualities. Plan direction for meeting SIOs can be found in the desired conditions in chapter 2, and the standards and guidelines in chapter 4. The five scenic integrity objective categories are described below:

- **Very High** – A scenic integrity level that generally provides for ecological change only. The landscape character is intact. Examples would include all designated wilderness areas.
- **High** – A scenic integrity level meaning human activities are not visually evident; the landscape character appears intact. In high scenic integrity areas, activities may only repeat attributes of form, line, color, and texture found in the existing landscape character. Examples would include the Black Hills area west of the Verde Valley and areas southeast of Granite Mountain Wilderness.
- **Moderate** – A scenic integrity level meaning human activities must remain visually subordinate to the attributes of the existing landscape character. Activities may repeat form, line, color, or texture common to these landscape characters, but changes in quality of size, number, intensity, direction, pattern, and so on, must remain visually subordinate to these landscape characters. Examples include areas immediately west and south of Prescott along the forest boundary.
- **Low** – A scenic integrity level meaning human activities begin to dominate the attributes of the existing landscape character, but they borrow from naturally established form, line, color, or texture so that its visual characteristics are those of natural occurrences within the surrounding area. Examples include areas on the eastern end of the Santa Maria Mountains along the forest boundary.
- **Very Low** – A scenic integrity level meaning human activities of vegetative and landform alterations may dominate the original, natural landscape character but should appear as natural occurrences when viewed at background distances. Examples include certain areas disturbed by flagstone quarries northeast of Drake.

Chapter 2. Forestwide Desired Conditions



Ponderosa pine stand near Camp Wood

Introduction

Desired conditions describe how the resources on the Prescott NF should look and function. In some cases, a desired condition matches the current condition; so the goal is to retain existing characteristics. In other cases, the desired condition is not identical to the current condition, and future management is expected to help Prescott NF trend toward the desired condition. Desired conditions are timeless in that they have no specific date by which they are to be completed. Desired conditions are the focus of the plan and are the basis for developing objectives and other plan components. A future project or activity must be consistent with or help trend toward desired conditions.

Forestwide desired conditions apply across the plan area. Desired conditions are described at multiple, nested scales. Descriptions at various scales are designed to provide detail and guidance for the design of future projects and activities that help achieve the desired conditions over time.

Descriptions at the landscape scale provide the “big picture” desired conditions for terrestrial-based resources across the larger land area (10,000 acres or greater) and may be composed of variable elevations, slopes, landforms, and soils. Descriptions at the mid-scale level represent areas of 100 to 1,000 acres or greater and become more specific about characteristics such as

species composition and habitat features. Descriptions at the fine scale relate to areas less than 10 acres in size and provide even more detailed information, such as desired vegetation patterns like groups of trees or clumps of vegetation. For instance, in descriptions for the Ponderosa Pine-Gambel Oak PNVT, landscape-scale descriptions illustrate multiple stands and natural meadows and grasslands. The mid- and fine- scales illustrate open grass-forb-shrub interspaces and uneven-aged stand conditions consisting of single and grouped trees of different vegetation structural stages and densities, and from young to old.

Desired conditions for aquatic resources and watershed integrity are described using watershed scales to help provide their relative importance or niche. Conditions for larger land areas are described under 4th to 5th level hydrologic units (subbasins and watersheds). More detailed descriptions for site-specific conditions are described at the 6th level hydrologic unit (subwatershed). Not all resources (e.g., scenery, heritage, recreation facilities) require a description at more than one scale.

Desired condition descriptions are divided into three sections: physical, biological, and social/economic resources. Physical resources relate to nonliving, ecosystem components such as climate, airsheds, and watersheds. Biological resources relate to living, growing organisms such as vegetation and aquatic and terrestrial wildlife. Social resources include recreation and transportation opportunities and cultural characteristics of communities such as ranching, scenic beauty, and open space. Economic factors include the impact of Prescott NF activities on the economy of the area.

The desired conditions (plan decisions) below are the numbered statements displayed in boxes. The information outside of these boxes are not plan decisions and are provided for background.

Physical Resources

Physical resources include ecosystem components such as climate, airsheds, and watersheds.

Climate

Background for Climate

The climate of the Southwestern United States is often referred to as dry and hot; however, it is very complex. While low deserts of the Southwest experience heat and drying winds in the early summer, forested mountain areas and plateaus may experience cold and drifting snow during winter. Climate variability is the norm within this region, as temperature and precipitation fluctuate on time scales ranging from seasons to decades. Monsoon thunderstorms in July and August are often accompanied by flash flooding, while from fall to spring, the weather can be warm with clear skies. The Southwest also experiences periods of short and long term drought. Precipitation patterns are characterized by two peaks each year; winter precipitation is produced primarily from large frontal systems moving over the region, whereas summer precipitation results largely from thunderstorms within the North American monsoon circulation.

Climate scientists agree that average air temperatures across the globe are rising (Solomon, et al., 2007), and it is expected that continued warming will accentuate or exacerbate interactions among ecosystem components. For example, observed temperature increases across the western U.S. have been linked to: increases in fire season length and severity, increases in total area burned, decreases in air quality, and the creation of new [fire regimes](#) (Forest Service, 2009a).

Looking forward, there is general agreement among climate modelers that by the end of the 21st century, the Southwest is likely to experience (Forest Service, 2010a):

- Temperature increases of 5–8 degrees Fahrenheit (or about 0.5 °F per decade on average)
- An increase in the number of hot days, with summer heat waves lasting 2 weeks or longer
- Warmer winters and reduced snowpack, and a later monsoonal season
- A 5 percent drop in precipitation in most of Arizona and New Mexico
- An increase in extreme flood events following an overall increase in tropical storms

Changes in water distribution, availability, and storage; timing of precipitation; watershed management; and human water use may present some of the most important challenges of climate change and national forest management in the Southwest. Terrestrial and aquatic ecosystems and all human socioeconomic systems in the Southwest depend on water. The prospect of future droughts becoming more severe because of global warming is also a significant concern.

Climate may influence the distribution and abundance of plant and animal species through changes in resource availability, species productivity, and survivorship. The potential ecological implications of climate change trends in the Southwest indicate:

- More extreme disturbance events, including wildfires, intense rain, flash floods, and wind events (Swetnam et al., 1999).
- Greater vulnerability to invasive species, including insects, plants, fungi, and vertebrates (Joyce et al., 2007).
- Long-term shifts in vegetation patterns (Westerling et al., 2006, and Millar, et al., 2007).
- Cold tolerant vegetation moving upslope or disappearing in some areas. Migration of some tree species to the more northern portions of their existing range (Clark, 1998).
- Potential decreases in overall forest productivity, due to reduced precipitation (Forest Service, 2005b).
- Shifts in the timing of snowmelt (already observed) in the American West, which, along with increases in summer temperatures, have serious implications for the survival of fish species and may challenge efforts to reintroduce species into their historic range (Joyce, et al., 2007, and Millar, et al., 2007).
- Effects on biodiversity, pressure on wildlife populations, distribution, viability, and migration patterns, because of increasing temperatures, water shortages, and changing ecological conditions.

The following conditions are desired to assist with building ecosystem [resilience](#) or [adaptive capacity](#) for plant and animal communities to accommodate expected changes imposed by future climate trends for the Southwest.

Desired Conditions for Ecosystem Resilience to Climate Change

Landscape Scale (10,000 acres or greater)

DC-Ecosystem Resilience-1	<p>Ecosystems retain all of their essential components, processes, and functions under changing and uncertain future environmental conditions. These resilient ecosystems provide a wide range of ecosystem services for local and regional needs.</p> <p>Prescott NF landscapes retain capacity to survive natural disturbances and threats to sustainability such as those driven by climate change and an increasing human population.</p> <p>Ecosystem functions (e.g., nutrient cycling, water infiltration, and carbon sequestration) are sustained as forests, woodlands, grasslands, and desert communities adapt to changing conditions.</p> <p>Ecosystems are resilient or adaptive to changing natural disturbance regimes (e.g., drought, wind, fire, insects, and pathogens), allowing for shifting of plant communities, structure, and ages across the landscape.</p> <p>Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of terrestrial and aquatic plants and animals. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the ecosystem.</p> <p>Contiguous blocks of habitat are interconnected, support a wide array of native species, and allow for genetic and behavioral interactions.</p> <p>Habitat quality distribution and abundance exist to support recovery and/or stabilization of federally listed and other species.</p>
---------------------------	--

Airsheds

Background for Airsheds

In 1955, Congress passed the first Federal Clean Air Act (P.L. 84-159) with later amendments in 1967, 1970, 1977, and 1990. Implementation of this Federal law is largely the responsibility of the states which may develop programs that are more restrictive than the Clean Air Act requires but never less. The State of Arizona has a state implementation plan that outlines how the State is implementing the goals of the Clean Air Act, and statutes that regulate burning, including use of wildland fire on Federal and State lands. Two types of air quality impacts are addressed by these laws and regulations: health hazards from pollutants and visibility impacts in Class I Airsheds.

The Clean Air Act establishes National Ambient Air Quality Standards (NAAQS) for six principal pollutants that pose health hazards: carbon monoxide (CO), lead, nitrogen dioxide, particulate matter less than 10 microns in size (PM₁₀), particulate matter less than 2.5 microns in size (PM_{2.5}), ozone, and sulfur dioxide. The major pollutant of concern in smoke from wildland fire is fine particulate matter (Ottmar, 2001). Particles larger than 10 microns in size tend to settle out of the air; smaller particles remain airborne and can cause respiratory problems. Studies

indicate that 90 percent of smoke particles emitted during wildland fires are PM₁₀, and about 90 percent of PM₁₀ is PM_{2.5} (Ward and Hardy, 1991).

Human health studies on the effects of particulate matter indicate that PM_{2.5} is largely responsible for health effects (Dockery et al., 1993). The small size of PM_{2.5} is why it has an especially long residence time in the atmosphere and penetrates deeply into the lungs (Ottmar, 2001). The Clean Air Act defines the NAAQS for PM_{2.5} as an annual mean of 15µg/m³ (micrograms per cubic meter), and a 24-hour average of 35µg/m³. At this concentration or above, PM_{2.5} is considered to have a detrimental effect on public health. It is important to note that it is not the total amount of emissions from a fire that have effects on human health, but rather it is how concentrated pollutants in ambient air are for a period of time. Atmospheric conditions during a fire have a considerable influence on how particulate matter is distributed through the ambient air and its potential to affect public health. Wind speed and direction, height of atmospheric mixing, atmospheric temperature profile, and atmospheric stability all affect where and how well smoke will disperse.

Regional haze is air pollution that is transported long distances, causing reduced visibility. The same particulate matter that poses human health risks is also largely responsible for impairments to visibility.

In addition to establishing standards for national ambient air quality for airsheds within the U.S., the Clean Air Act established special goals for visibility in many national parks, wilderness areas, and international parks. Through the 1977 amendments to the Clean Air Act, Congress set a national goal for visibility as “the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory [Class I Federal areas](#), which impairment results from manmade air pollution.” The amendments required the Environmental Protection Agency (EPA) to issue regulations to assure “reasonable progress” toward meeting the national goal.

Through the 1999 Regional Haze Rule, the EPA directed states to establish goals for each affected Class I area to: (1) improve visibility on the haziest days and (2) ensure no degradation occurs on the clearest days over the period of each implementation plan.

Two mandatory Class 1 Federal areas occur within or adjacent to the Prescott NF: Sycamore Canyon Wilderness (47,757 acres) and Pine Mountain Wilderness (20,061 acres). Baseline visibility data collected for these two areas (2001 to 2004) indicate increasing visibility and a trend toward the desired goal of 6.68 to 6.96 [deciviews](#) by the year 2064.

Fire management activities have the potential to impact airsheds of the Prescott NF. State air pollution agencies recognize that fire of all kinds (i.e., wildfire, prescribed fire) contributes to regional haze, and there is a complex relationship between what is considered a natural source of emissions versus a human-caused source of emissions. For example, the increased use of prescribed fire in some areas may lead to particulate emissions levels lower than those that would be expected from an uncharacteristically severe wildfire. Given that in many instances the purpose of prescribed fires is to restore natural fire patterns across the landscape, state air pollution agencies work with Federal land managers to support the development of enhanced smoke management plans to minimize the effects of emissions on public health and welfare.

For the Prescott NF, air quality resulting from fire is monitored by the Arizona Department of Environmental Quality (ADEQ) Air Quality Division for potential human health impacts using

data recorders usually located in local communities including Prescott, Prescott Valley, Cottonwood, and Camp Verde.

To minimize air pollution and smoke impacts, the Prescott NF works with the ADEQ Air Quality Division and follows Arizona’s Forest and Rangeland Management Burn Rule (A.R.S. 18-15-1500). The Prescott NF also employs emission reduction techniques to avert smoke impacts to mandatory Class 1 Federal areas.

Under projected warmer and drier climate conditions, airsheds are susceptible to increased levels of pollutants (particulates and aerosols) resulting from longer, more severe fire seasons, increased occurrence of warmer air masses that can suspend higher concentrations of pollutants, and frequent or intense windstorms that can transport pollutants short and long distances.

The following conditions are desired to assist with keeping emissions below the NAAQS, protecting visibility in Class I Areas, and promoting public support for wildland fire management programs.

Desired Conditions for Airsheds

Landscape Scale (10,000 acres or greater)

DC-Airshed-1	<p>Fire as a natural disturbance process occurs across the landscape.</p> <p>Smoke and dust levels meet National Ambient Air Quality Standards (NAAQS).</p> <p>Conflicts between smoke aversion and improvement of ecosystems using fire are infrequent.</p> <p>Smoke impacts to communities from prescribed fire are minimized through adherence to Arizona Revised Statute, Title 18, Chapter 2, Article 15 or the most current smoke management plan that outlines procedures for requesting, approving, and tracking emissions from prescribed fire.</p> <p>Citizens are aware of the timing, emission sources, and smoke dispersion patterns of prescribed fire, along with information on the role and benefits of fire as a landscape process.</p> <p>Forest Service management activities do not contribute to diminished visibility or increased atmospheric deposition of pollutants, especially within the Sycamore Canyon Wilderness and Pine Mountain Wilderness.</p>
--------------	--

Watersheds

Background for Watersheds (Watershed Integrity)

The U.S. Geological Survey has created a hierarchy of hydrologic units that places the Prescott NF within the Lower Colorado River region and within three subregions. Within the Prescott NF, twenty-two 5th level hydrologic units (watersheds) help to make up eight 4th level hydrologic units (subbasins) that overlap the forest to some degree. At a fine scale, the Prescott NF overlaps with

portions of one hundred and twenty-seven 6th level hydrologic units (subwatersheds). The 127 subwatersheds vary from about 7,000 to over 48,000 acres in size, although in many cases, only a portion of a subwatershed covers the Prescott NF. See map 2 in appendix A.

While the updated National Hydrologic Database identifies 79.4 miles of perennial or [perennial intermittent](#) streams on the Prescott NF, the Verde River is the only major perennial stream with continuous flow from headwaters to mouth.

Water yield varies by subbasin, and those associated with the Bradshaw Mountains receive proportionately more precipitation per acre than areas at lower elevations. [Instream flow](#), critical to maintenance of aquatic ecosystems, has been impacted to varying degrees by diversions and groundwater withdrawals. Water quality has been influenced by past mining activities. For example, about 19.7 miles of Turkey Creek was classified as Category 5 [impaired waters](#) due to copper and lead levels. Remediation was completed in 2007.

[Riparian corridors](#) on the Prescott NF provide a link between the upland vegetation and soils within a watershed and the aquatic environments found in streams and rivers. Riparian corridors are important natural bio-filters, protecting aquatic environments from excessive sedimentation, polluted surface runoff, and erosion. They supply shelter and food for many aquatic organisms and shade that is an important part of stream temperature regulation.

Vegetation associated with riparian corridors thrive in proximity to water and are generally dependent upon seasonal flooding and high water tables for germination, growth, and survival. Life forms include emergent aquatic plants, forbs and grasses, and woody shrubs and trees that vary with elevation, substrate, stream gradient, and depth to groundwater. In arid regions, including the Prescott NF, the boundary between riparian vegetation and surrounding upland vegetation is often abrupt. This limits the riparian vegetation to long and narrow patterns on the landscape, often referred to as “gallery forest.”

The riparian gallery forests on the Prescott NF consist of Fremont cottonwood, various willows, Arizona sycamore, velvet and green ash, Arizona alder, Arizona walnut, and box elder. Herbaceous vegetation (i.e., several species of forbs and grasses) is usually present. On occasion, riparian gallery forests can include various species of oak, pine, or juniper from adjacent uplands.

Mid-scale vegetation mapping compiled in 2007 estimated about 12,400 acres of Riparian Gallery Forest PNVT. The accuracy of this estimate is uncertain due to the inclusion of nonriparian, upland soils and vegetation in the terrestrial ecosystem survey map units. Additional information on the occurrence of riparian vegetation is needed to accurately estimate the spatial extent of the Riparian Gallery Forest PNVT on the Prescott NF.

The Riparian Gallery Forest PNVT exhibits a low departure from desired conditions for vegetation structure and fire regime. However, the spread of [nonnative invasive species](#), soil compaction, or loss of vegetation due to visitor use remain as threats to this ecosystem.

Under projected warmer and drier climate conditions, watersheds are susceptible to changes in the frequency, intensity, timing, and spatial extent of extreme weather events (e.g., droughts, flash flooding, landslides, windstorms, and ice storms). These events, coupled with increased ambient air and soil temperatures, can create corresponding shifts in plant evapotranspiration rates, water infiltration, overland flow, erosion, sediment delivery, and loss of organic ground cover.

The following conditions are desired to assist with the restoration and maintenance of watershed integrity to increase the resilience and adaptive capacity of watersheds and riparian corridors to accommodate expected changes imposed by future climate trends for the Southwest.

Desired Conditions for Watersheds

4th to 5th Level Hydrologic Units (Subbasin to Watershed Scale)

DC-Watershed-1	<p>The quantity and timing of waterflows in streams, seeps, springs, and wetlands is sustained at a level that retains or enhances essential ecological functions.</p> <p>Water quality is sustained at a level that retains the biological, physical, and chemical integrity of the aquatic systems and benefits survival, growth, reproduction, and migration of native and desired nonnative aquatic and riparian species. Characteristics include:</p> <ul style="list-style-type: none">• Water quality meets Arizona water quality standards and supports designated beneficial uses and native and desired nonnative aquatic species.• Short-term exceedance of water quality standards (i.e., temporary period of declining water quality) due to management activity occurs only in the anticipation of long-term improvement of watershed condition and water quality. <p>Soil and vegetation functions in upland and riparian settings are retained or enhanced to facilitate precipitation infiltration and groundwater recharge.</p> <p>Watersheds support sustainable levels of forage for browsing and grazing animals, timber production, and recreation opportunities with no long term decline in watershed conditions.</p>
DC-Watershed-2	<p>Riparian corridors are intact and are trending toward properly functioning condition across the landscape.</p> <p>Stream channels and associated flood plains occur within their natural flow regimes.</p> <p>In the flood plains and channels of deciduous forest dominated riparian corridors, coarse woody debris is found in sufficient quantities to provide instream transitory pool-like habitat, shading from intense solar radiation, and organic particles for use as food by fish and aquatic invertebrates.</p> <p>Access to food, water, cover, nesting areas, and protected pathways for aquatic and upland species is maintained between aquatic and upland components (e.g., logs, ground vegetation).</p>

DC-Watershed-3	<p>Soil productivity, function, and inherent physical, chemical, and biological processes remain intact or are enhanced.</p> <p>Elements necessary to sustain soil productivity and function include:</p> <ul style="list-style-type: none"> • Logs and other woody material are distributed across the soil surface to maintain soil function within the limitations of individual PNVTs. • Soil loss does not inhibit soil function. Limited soil compaction does not affect ecological and hydrological functions. • Vegetative ground cover, including biological soil crusts (i.e., soil consisting of lichens, mosses, cyanobacteria, and algae organisms), provides stability and fertility for soil function. • Vegetative ground cover is distributed across the soil surface in sufficient proportions to meet or trend toward “natural” conditions listed for each map unit in the terrestrial ecosystem survey. • Soils with a condition rating below satisfactory (i.e., impaired or unsatisfactory) do not further decline in function and trend toward a satisfactory rating where environmental factors allow¹.
DC-Watershed-4	<p>The municipal supply watersheds contributing to the upper Verde River contain vegetation and soil conditions that support desired water quality and quantity for the communities in the Verde Valley and the municipality of Phoenix².</p>

6th Level Hydrologic Unit (Subwatershed Scale)

DC-Watershed-5	<p>The municipal watershed surrounding Goldwater Lake provides a supply of clean water for the city of Prescott (from Granite Creek and Groom Creek)³.</p>
DC-Watershed-6	<p>Wetlands, seeps, springs, wet meadows, and associated wetlands or riparian systems develop and support stable herbaceous and woody vegetative communities with root masses that stabilize streambanks, flood plains, shoreline, and soil surfaces.</p> <p>The natural hydrologic and geomorphic processes inherent to these groundwater dependent ecosystems function at a level that allows retention of their unique physical and biological properties.</p>

¹ See “Terrestrial Ecosystem Survey of the Prescott National Forest,” p. 76 (Robertson et al., 2000).

² Municipal supply watersheds are generally those where agreements have been approved between the Forest Service and the municipality.

³ Based on a 1924 agreement which covers portions of Upper Granite Creek-Watson Lake and Groom Creek-Upper Hassayampa 6th level hydrologic units (subwatersheds).

Biological Resources

Vegetation

Background for All Vegetation

As first mentioned in the introductory chapter, the vegetation found on the Prescott NF is complex and diverse, reflecting a wide variety of growing conditions ranging from hot desert valleys to cool mountaintops. In between, there are a variety of plant communities including grasslands, chaparral, piñon-juniper woodlands, and ponderosa pine forests.

The Forest Service carries out its responsibilities for stewardship under the concept of sustainable multiple-use management. It seeks to meet the diverse needs of people, while also protecting the terrestrial vegetation and associated resources of the 10 PNVTs found on the Prescott NF.

The conditions for all vegetation described below are desired to assist with the restoration and maintenance of healthy ecosystems, while providing for the sustainable use of those ecosystems. Sustainable uses, including livestock grazing, firewood cutting, and timber harvest, contribute to the social, economic, and cultural structure and stability of rural communities. The desired conditions displayed below apply to all PNVTs, and additional PNVT-specific desired conditions are described in the sections that follow.

Desired Conditions for All Vegetation

Landscape Scale (10,000 acres or greater)

DC-Veg-1	<p>Diverse vegetation structure, species composition, and densities, provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with old growth conditions. The location of old-growth shifts on the landscape over time as a result of succession and disturbance.</p> <p>Natural processes and human and natural disturbances provide desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. Natural fire regimes are restored. Uncharacteristic fire behavior is minimal or absent on the landscape.</p> <p>Native plant communities dominate the landscape, while nonnative invasive species are nonexistent or in exist in low quantities. Establishment of invasive plant species new to the Prescott NF is prevented. Existing invasive plant species are prioritized for eradication, containment, or control.</p>
----------	--

DC-Veg-2	<p>A sustainable mix of forest products are offered for sale in response to local and regional needs; these products contribute to the social, economic, and cultural structure and stability of rural communities.</p> <p>Harvest activities on lands deemed suitable for timber production provide for the diversity of plant and animal communities and other resources to meet overall multiple-use objectives.</p> <p>Forest products are removed from unsuitable lands to benefit forest health, mitigate insect and disease damage, reduce hazardous fuels, improve wildlife habitat, create recreation opportunities, or to perform research or administrative studies.</p>
DC-Veg-3	<p>Vegetation on lands deemed suitable for livestock grazing provides sustainable amounts of forage for authorized livestock and wildlife species, consistent with multiple-use objectives.</p> <p>Herbivory aids in sustaining or improving native vegetation cover and composition.</p> <p>Livestock grazing contributes to aspects of the social, economic, and cultural structure and stability of rural communities.</p>

Mid-Scale (100 to 1,000 acres)

DC-Veg-4	<p>Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVT.</p> <p>Insect and disease populations are at endemic levels with occasional outbreaks. A variety of seral states usually restricts the scale of localized insect and disease outbreaks.</p> <p>Vegetation conditions allow for transition zones or ecotones between riparian areas, forests, woodlands, shrublands, and grasslands. Transition zones may shift in time and space due to changing site conditions from natural processes and human and natural disturbances (e.g., wildland fire, mechanical vegetation treatments, droughts, wildfire, insects and disease).</p> <p>Ecological conditions provide suitable habitat for plants identified as Southwestern Region sensitive species.</p>
----------	--

Fine Scale (less than 10 acres)

DC-Veg-5	<p>Locally endemic plant communities are intact and functioning.</p> <p>Unique plant community habitats (e.g., limestone cliffs, margins of seeps and springs, Verde Valley Formation, basalt-lava flows/cinders, calcareous soil/alkaline clay, canyons/cliffs and ledges, granitic soils/igneous rocks, sandstone rocks/soils and riparian forest) are present to maintain well distributed populations of associated native plant species.</p> <p>Native plants provide nectar, floral diversity, and pollen throughout the seasons that pollinator species are active. Desired habitat conditions promote pollinator success and survival.</p> <p>Species identified as culturally important are valued and, therefore, enhanced and protected.</p>
----------	---

Background for PNVTs

Ten PNVTs have been identified for the Prescott NF landscape. The PNVTs found on the Prescott NF are responsive not only to natural and human disturbances but also to the local abiotic features of the landscape (e.g., topography, aspect, slope, soil texture, water infiltration rates).

Initial identification and classification of PNVTs resulted in 13 categories as reported in the “Prescott National Forest Ecological Sustainability Report” (Forest Service, 2009c). Additional data gathering and assessment since 2009 resulted in a refinement of the PNVT classification for the Prescott NF. Based on updated midscale vegetation inventory, field visits, data review, and biophysical model fitting, the number of PNVTs identified on the Prescott NF was adjusted from 13 to 10. Table 2 lists these 10 PNVTs and their proportional area. Map 1 in appendix A displays the PNVTs for the Prescott NF.

Table 2. Potential natural vegetation types (PNVTs) of the Prescott NF

PNVT Name	Acres	Percent
Semi-Desert Grassland	125,712	10
Great Basin Grassland	38,389	3
Juniper Grassland	137,274	11
Piñon-Juniper Evergreen Shrub	463,296	37
Interior Chaparral	315,445	25
Ponderosa Pine-Evergreen Oak	63,539	5
Ponderosa Pine-Gambel Oak	49,052	4
Piñon-Juniper Woodland	36,263	3
Desert Communities	5,919	< 1
Riparian Gallery Forest	12,439	1

PNVT Name	Acres	Percent
Total	1,247,328	100

Refinements to the classification of PNVTs identified in the 2009 ecological assessment included:

- The Mixed-Conifer with Frequent Fire PNVT (6,600 acres) was combined with the Ponderosa Pine Forest PNVT because they are described by the same biophysical setting model (e.g., vegetation structure and disturbance regimes). The resulting PNVT was identified as Ponderosa Pine-Gambel Oak.
- The Mixed-Conifer with Aspen PNVT (80 acres) was determined to be a misidentification and the acres were added to the Ponderosa Pine-Gambel Oak PNVT.
- The Madrean Encinal Woodland PNVT (5,500 acres) map units were grouped with adjoining PNVT units because of concerns about their identification. Most of the indicator species describing this PNVT, with the exception of the Mexican pines, were observed during field visits to the small and scattered map units assigned to this PNVT. These units were found to be interspersed with Interior Chaparral and Ponderosa Pine-Evergreen Oak PNVTs, suggesting the possibility that multiple fire disturbance regimes existing in close proximity to one another could account for the observed variations in vegetation composition and structure. There is uncertainty in how much the observed vegetation structure may reflect recent land use and/or disturbance history versus the presence of a distinct PNVT. Until additional information is available to address the uncertainty associated with identification of the Madrean Encinal Woodland PNVT, it was decided to manage the vegetation of these map units based on their adjoining PNVT.

As shown in table 3, some PNVTs are more similar to desired conditions than others. For most of the PNVTs, however, the vegetation and fire characteristics currently found in a PNVT are not the same as those described in the desired condition. The expectation is that future site-specific projects will produce a trend toward the desired conditions that are described for each of the PNVTs. Wildlife and plant species are often associated with a PNVT. As conditions trend toward those that are desired, it is intended that habitat for associated species will improve as well.

Table 3. Management concerns for the PNVTs of the Prescott NF

PNVT Name	Acres	Percent of PNF Area	Similarity to Desired Conditions - Vegetation Structure	Similarity to Desired Conditions - Fire Disturbance	Management Concerns
Semi-Desert Grassland	125,712	10	Low	Low	Lack of desired fire disturbance; tree and shrub encroachment; increases in exposed soil surface and spread of nonnative plants.
Great Basin Grassland	38,389	3	High	Moderate	
Juniper Grassland	137,274	11	Moderate	Moderate	Lack of desired fire disturbance; increased

PNVT Name	Acres	Percent of PNF Area	Similarity to Desired Conditions - Vegetation Structure	Similarity to Desired Conditions - Fire Disturbance	Management Concerns
Piñon-Juniper Evergreen Shrub	463,296	37	Low	Moderate	tree and shrub density and canopy cover; lack of perennial grasses and forbs.
Piñon-Juniper Woodland	36,263	3	High	High	
Interior Chaparral	315,445	25	High	High	Wildfire threat to human life and property.
Ponderosa Pine-Evergreen Oak	63,539	5	Low	Low	Increased tree and shrub density; increased fuel load, increased risk of uncharacteristic high intensity fire, proximity to human life and property.
Ponderosa Pine-Gambel Oak	49,052	4	Low	Low	
Desert Communities	5,919	<1	High	High	Threat of human-caused fire.
Riparian Gallery Forest	12,439	1	High	High	Dewatering; trampling of vegetation.
Total	1,247,328	100			

Ranges of values presented in desired conditions account for natural variation in the composition, structure, and disturbance patterns within a PNVT. Desired conditions may differ within a PNVT due to spatial variability in soils, elevation, aspect, or varying multiple-use needs. Site-specific areas may be managed for different aspects of desired conditions because of particular resource and species needs. For example, it may be desirable to have different desired conditions within a PNVT, such as a lower density of vegetation in the wildland-urban interface (WUI) than outside of the WUI to achieve the desired fire behavior within the proximity of property and human occupancy. The conditions described for each PNVT in the sections that follow are desired to restore and maintain vegetation structure and disturbance regimes and to increase ecosystem resilience or adaptive capacity of plant communities to accommodate expected changes imposed by future climate trends for the Southwest.

Background for Piñon-Juniper PNVTS

At roughly 636,800 acres, Piñon-Juniper PNVTS cover a majority of the Prescott NF landscape and represent some of the most extensive PNVTS in the Southwest. These cold adapted evergreen woodlands are characterized by piñon and/or juniper species at elevations ranging from 4,500 to 7,500 feet. The piñon component includes Colorado and single leaf species. The juniper component is a variable mix of alligator, oneseed, Utah, and Rocky Mountain. Annual and perennial grasses, forbs, and shrubs can be found beneath the woodland overstory. Species

composition, stand structure, and density vary by location primarily due to disturbance history, precipitation, elevation, temperature, and soil type. On erosive soil types within these PNVTs, shrub, tree, and herbaceous ground cover help to lessen raindrop intensity and soil movement.

Under projected warmer and drier climate conditions, the Piñon-Juniper PNVTs are expected to be susceptible to decreases in plant productivity from water limitations and increased heat; increases in insect attacks; colonization of invasive species; longer and more severe fire seasons; and altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., droughts, flash flooding, landslides, windstorms, ice storms). It is possible that there may be some shifts in aerial coverage between the three Piñon-Juniper PNVTs depending on amount and timing of precipitation and site-specific conditions such as terrain and soils. In addition, piñon trees may decrease in number due to possible increased insect attack and lack of moisture.

Three distinct Piñon-Juniper PNVTs have been classified on the Prescott NF: Juniper Grassland, Piñon-Juniper Evergreen Shrub, and Piñon-Juniper Woodland. Each one is described in more detail in the following sections.

Background for Juniper Grasslands

The Juniper Grassland PNV, with a grass and forb dominated understory and scattered overstory trees, generally occurs on flats, basins, gentle sloping foothills, and transitional valleys at generally lower elevations. The soils associated with juniper grasslands are generally deep and productive. Juniper grasslands cover about 137,300 acres of the Prescott NF.

Juniper grasslands are moderately departed from desired conditions. Fire has been excluded from this PNV for most of the last century, allowing for increases in the age, density, and canopy cover of trees and shrubs and a reduction in fire stimulated regrowth and germination of perennial grasses and forbs.

Desired Conditions for Juniper Grasslands

Landscape Scale (10,000 acres or greater)

DC-Veg-6	<p>Juniper Grassland PNVs are generally uneven aged and open in appearance. Trees occur as individuals or in smaller groups and range from young to old. One or more juniper species are always present while piñon species are usually absent.</p> <p>Tree canopy cover may range from a low of 5 to 10 percent to as high as 30 percent. A continuous herbaceous understory, including native grasses and forbs, are present, with incidental occurrence of shrubs that support a natural fire regime.</p> <p>Old growth occurs throughout the landscape, generally in small areas as individual old growth components, or as clumps of old growth. Old growth components include old trees, snags, coarse woody debris (downed wood), and structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality).</p> <p>Snags are scattered across the landscape. Coarse woody debris occurrence, including logs, generally averages 1 to 2 tons per acre.</p>
----------	--

	Fires occur every 1 to 35 years with low severity favoring regrowth and germination of native grasses and forbs.
--	--

Background for Piñon-Juniper Evergreen Shrub

The Piñon-Juniper Evergreen Shrub PNVN, with an understory dominated by a mix of shrub species, generally occurs on elevated and lowland plains, hills, and lower mountain slopes. The soils associated with this PNVN are variable and include those derived from granite, limestone, basalt, sandstone, and alluvium. Covering more than 463,000 acres, this is the most common Piñon-Juniper PNVN on the Prescott NF.

The Piñon-Juniper Evergreen Shrub PNVN is moderately departed from desired conditions. For example, within-group tree and shrub density is higher than expected, and shrub canopy cover lacks variability. Current fire frequency and severity show some similarity to desired conditions.

Desired Conditions for Piñon-Juniper Evergreen Shrub

Landscape Scale (10,000 acres or greater)

DC-Veg-7	<p>Piñon-Juniper Evergreen Shrub PNVNs are a mix of trees and shrubs and herbaceous vegetation occurring on the landscape as discrete tree groups and shrub patches. Trees occur as individuals or in smaller groups ranging from young to old. One or more juniper species are always present; while piñon trees are occasionally absent. Typically, there is a mosaic of groups of trees that are even aged in structure with all ages represented across the landscape.</p> <p>The understory is dominated by low to moderate density shrubs. Shrub canopy cover is variable (10 to 65 percent). The shrub component consists of one or a mix of evergreen shrubs including oak, manzanita, mountain mahogany, cliffrose, and other shrub species, which are well distributed. Native perennial grasses and annual and perennial forbs are present in the interspaces.</p> <p>Old growth occurs throughout the landscape, generally in small areas as individual old growth components or as clumps of old growth. Old growth components include old trees, snags, coarse woody debris (downed wood), and structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality).</p> <p>Snags and old trees with dead limbs/tops are scattered across the landscape. Coarse woody debris is present in varying amounts, ranging from 1 to 5 tons per acre on average.</p> <p>Fires are typically of mixed severity while some evergreen shrub types exhibit occasional high severity fires. Regardless of the level of severity, fires occur with an average frequency of 35 to 100 years.</p>
----------	--

Mid-Scale (100 to 1,000 acres)

DC-Veg-8	<p>To reduce wildfire behavior and hazards to life and property:</p> <ul style="list-style-type: none"> • Vegetation conditions within the wildland-urban interface (WUI) may be composed of younger and more widely-spaced shrub patches and tree groups than for the same PNVTs located outside of WUI areas. • The frequency of disturbance (e.g., prescribed fire, vegetation treatments) within the WUI may be more often than for the same PNVTs located outside of WUI areas.
----------	--

Background for Piñon-Juniper Woodlands

Covering about 36,000 acres of the Prescott NF, the Piñon-Juniper Woodland PNVNT has a persistent tree overstory and a discontinuous understory of grasses and/or shrubs. It generally occurs on flats, ridgetops, rugged uplands, and steep slopes at various elevations, and on soils that are shallow and rocky.

Current vegetative conditions and fire regimes within the piñon-juniper woodlands are similar to desired conditions. Fire in this PNVNT is less frequent and more variable than in the Juniper Grassland and Piñon-Juniper Evergreen Shrub PNVNTs due to differences in vegetative ground cover and fine fuels.

Desired Conditions for Piñon-Juniper Woodlands**Landscape Scale (10,000 acres or greater)**

DC-Veg-9	<p>Piñon-Juniper Woodland PNVNTs are a mosaic of even-aged patches of juniper and variable amounts of piñon that form multiaged persistent woodlands. Piñon trees are occasionally absent, but one or more juniper species is always present. Very old trees (greater than 300 years old) are present.</p> <p>Tree density is variable and mid-to-old age groups of trees have greater than 40 percent canopy cover, shrubs are sparse, and herbaceous cover is low and discontinuous.</p> <p>Old growth occurs throughout the landscape, generally in small areas as individual old growth components or as clumps of old growth. Old growth components include old trees, snags, coarse woody debris (downed wood), and structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality).</p> <p>Snags and older trees with dead limbs and/or tops are scattered across the landscape. Coarse woody debris generally averages 2 to 5 tons per acre.</p> <p>Fire in this PNVNT is less frequent than in the juniper grassland and evergreen shrub types and variable due to differences in ground cover. The fires that do occur have mixed to high severity effects and return intervals that range from 35 to 200+ years.</p>
----------	--

Mid-Scale (100 to 1,000 acres)

DC-Veg-10	<p>To reduce wildfire behavior and hazards to life and property:</p> <ul style="list-style-type: none">• Vegetation conditions within the wildland-urban interface (WUI) may be composed of younger and more widely spaced shrub patches and tree groups than for the same PNVTs located outside of WUI areas.• The frequency of disturbance (e.g., prescribed fire, vegetation treatments) within the WUI may be more often than for the same PNVTs located outside of WUI areas.
-----------	---

Background for Interior Chaparral

The Interior Chaparral PNVt extends over 315,400 acres, and represents the second largest PNVt on the Prescott NF. Interior chaparral occurs at mid-elevations (3,400 to 6,600 feet) on foothills and lower mountain slopes. It is bordered by ponderosa pine or piñon-juniper woodlands at the upper elevations and semi-desert grasslands at the lower elevations. Interior chaparral has a uniform dense structure dominated by shrubs with thick, stiff, waxy evergreen leaves. Mixed shrub associations include: shrub live oak, manzanita, desert ceanothus, mountain mahogany, silktassles, Stansbury cliffrose, evergreen oaks, sumacs, and various cacti. Grasses are a minor component in chaparral and may include grama, threeawn, and muttongrass species.

The plant composition, structure, and fire regime found within the Interior Chaparral PNVt are similar to desired conditions; however, some nonnative invasive species, such as yellow star thistle and Dalmatian toadflax, are known to infest small portions of this PNVt.

Under projected warmer and drier climate conditions, the Interior Chaparral PNVt is susceptible to decreases in plant productivity from water limitations and increased heat; increases in insect attacks; colonization of invasive species; longer and more severe fire seasons; and altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., droughts, flash flooding, landslides, windstorms, ice storms).

Desired Conditions for Interior Chaparral

Landscape Scale (10,000 acres or greater)

DC-Veg-11	<p>During young stages of development, Interior Chaparral PNVT contains a grass and forb component in the understory. The mid-to-late development stages (i.e., older than 10 to 15 years) are dense thickets with considerable shrub litter. Standing dead material may accumulate in areas that have not burned for several decades. Ground cover consists primarily of shrub litter (e.g., small stems, leaves). Greater than 70 percent of chaparral is closed canopy with some openings of grasses and forbs.</p> <p>Chaparral is in a constant state of transition from young to older stages and back again, with fire being the major disturbance factor. High severity fires occur with a frequency of once every 35 to 100 years.</p>
-----------	---

Mid-Scale (100 to 1,000 acres)

DC-Veg-12	<p>To reduce wildfire behavior and hazards to life and property:</p> <ul style="list-style-type: none"> • Vegetation conditions within the wildland-urban interface (WUI) may be composed of younger and more widely spaced shrub patches and tree groups than for the same PNVTs located outside of WUI areas. • The frequency of disturbance (e.g., prescribed fire, vegetation treatments) within the WUI may be more often than for the same PNVTs located outside of WUI areas.
-----------	--

Background for Ponderosa Pine-Evergreen Oak Forest

The Ponderosa Pine-Evergreen Oak PNVT covers more than 63,500 acres of the Prescott NF at elevations ranging from approximately 6,000 to 7,500 feet. These forests are dominated by ponderosa pine and can be distinguished from the Ponderosa Pine-Gambel Oak PNVT by one or more well represented evergreen oak species (e.g., Emory oak and Arizona white oak), juniper species, piñon pine species, and Arizona cypress in some locations. These forests have an understory of primarily evergreen shrubs including manzanita, turbinella oak, sumac species, and mountain mahogany species.

This PNVT is currently severely departed from desired conditions. It has too many young and mid-aged trees and uncharacteristically high tree and shrub density. There are not enough old trees. The desired frequency and intensity of fires is lacking. Historically, fire burned relatively frequently (every 6 to 12 years) and at low intensities maintaining an open pine forest with a mix of young evergreen oaks and shrubs underneath. Approximately two thirds of this PNVT occurs within the wildland-urban interface.

Under projected warmer and drier climate conditions, the Ponderosa Pine-Evergreen Oak PNVT is susceptible to decreases in plant productivity from water limitations and increased heat; increases in insect attacks, colonization of invasive species; longer and more severe fire seasons; and altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., droughts,

flash flooding, landslides, windstorms, ice storms). High risk occurrences could include uncharacteristically intense wildfire, increased rate of insect or disease attack due to warming temperatures, and increasing challenges to regeneration of ponderosa pine, especially on warmer, drier areas such as south-facing slopes.

Desired condition descriptions for the Ponderosa Pine-Evergreen Oak PNVT were refined considering information published in RMRS-GTR-310 (Forest Service, 2013). This publication is a synthesis of research findings for restoring the composition and structure in the frequent-fire forests of the Southwest and provides a science-based framework for improving ecosystem resiliency under a changing climate.

Desired Conditions for Ponderosa Pine-Evergreen Oak Forest

Landscape Scale (10,000 acres or greater)

DC-Veg-13	<p>At the landscape scale, Ponderosa Pine-Evergreen Oak PNVT forests are composed of structural stages ranging from young to old trees. Forest structure is variable but generally uneven aged and open in appearance. Areas of even-aged structure are present. The forest arrangement consists of small clumps and groups of trees interspersed within variably sized openings of moderate to high density shrubs and limited grass cover. The size, shape, and number of trees per group and the number of groups per area vary across the landscape. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms.</p> <p>Vegetation composition resembles historic situations including ponderosa pine overstory. Evergreen oaks are well represented and juniper, piñon pine, and Arizona cypress can be found in the lower tree canopy. Understory species consist of evergreen shrubs (e.g., manzanita, turbinella oak, sumac species, mountain mahogany species) and grass as scattered ground cover.</p> <p>Old growth occurs throughout the landscape, generally in small areas as individual old growth components or as clumps of old growth. Old growth components include old trees, snags, coarse woody debris (downed wood), and structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). The forest contains various stages of development (e.g., temporary openings or groups of very young trees) to provide future old growth within the landscape.</p> <p>The ponderosa pine-evergreen oak forest is composed predominantly of vigorous trees and shrubs, but declining, top killed, lightning scarred, and fire scarred trees provide snags and coarse woody debris (greater than 3 inch diameter). A variety of snag species and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches or greater diameter at breast height (d.b.h.) and average 1 to 2 per acre. Logs (greater than 12 inch diameter at mid-point and greater than 8 feet long) average 3 per</p>
-----------	---

	<p>acre within the forested area of the landscape. Coarse woody debris, including logs, ranges from 3 to 10 tons per acre.</p> <p>Where it naturally occurs, Emory oak and Arizona white oak are present with all age classes represented. Old trees occur as dominant individuals or small groups in openings.</p> <p>Limited grasses, forbs, and a moderate density of shrubs and needle cast (fine fuels) support the natural fire regime.</p> <p>Fires of low severity and occasionally mixed severity, occurring every 6 to 12 years, are characteristic of this PNVT including throughout the range of northern goshawks.</p>
--	---

Mid-Scale (100 to 1,000 acres)

DC-Veg-14	<p>The Ponderosa pine-evergreen oak forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area. Desired tree density within forested areas generally ranges from 30 to 70 trees per acre and from 40 to 80 square feet basal area per acre, but occasionally may be as low as 20 square feet per acre. Interspaces surrounding tree groups are variably shaped and comprised of shrub, grass, and forb mixture. Interspaces typically range from 10 percent in more productive sites to 70 percent in the less productive sites. Occasionally patches of even-aged forest structure are present.</p> <p>Fires burn primarily on the forest floor, with occasional consumption of the overstory as crown fire. Crown fires occur in small patches.</p> <p>Basal area per mature tree group in northern goshawk post-fledgling family areas (PFAs) is 10 to 20 percent higher than northern goshawk foraging areas and the general forest. Northern goshawk nest areas have multiaged forest structure, dominated by large trees with relatively denser canopies than other areas in this PNVT.</p>
DC-Veg-15	<p>To reduce wildfire behavior and hazards to life and property:</p> <ul style="list-style-type: none"> • Vegetation conditions within the wildland-urban interface (WUI) may be composed of younger and more widely spaced shrub patches and tree groups than for the same PNVTs located outside of WUI areas. • The frequency of disturbance (e.g., prescribed fire, vegetation treatments) within the WUI may be more often than for the same PNVTs located outside of WUI areas.

Fine Scale (less than 10 acres)

DC-Veg-16	<p>Trees typically occur in irregularly shaped groups and are variably spaced with some tight clumps. Interspaces surrounding tree groups are composed of shrubs and limited grass cover. Some interspaces may contain a high density of shrubs or some individual trees.</p> <p>Trees within groups are of similar or variable ages and may contain species other than ponderosa pine. Tree groups are typically less than 1 acre, and at the mature and old stages, consist of approximately 2 to 40 trees.</p>
-----------	---

Background for Ponderosa Pine-Gambel Oak Forest

The Ponderosa Pine-Gambel Oak PNVT covers approximately 49,000 acres. This PNVT generally occurs at elevations ranging from 5,500 to 9,000 feet on hills, mountain slopes, and some elevated plains. These forests are dominated by ponderosa pine and Gambel oak and commonly include other tree species such as New Mexico locust, juniper, and piñon. As previously mentioned, the Mixed-Conifer with Frequent Fire PNVT (which comprises 6,600 acres of the Prescott NF) was combined with the Ponderosa Pine-Gambel Oak Forest PNVT because they are described by the same vegetation structure and disturbance regimes. Species such as aspen, Douglas-fir, and white fir are typically present in these areas, along with ponderosa pine and Gambel oak. Species such as aspen, Douglas-fir, and white fir may be present, especially in relatively moist areas. There is typically an understory of grasses and forbs with occasional shrubs.

This PNVT is severely departed from desired conditions. It has too many young and mid-aged trees and not enough old trees. The desired fire frequency and intensity is lacking. Historically, fire burned relatively frequently (every 1 to 15 years) and at low intensities that kept the forest open with abundant herbaceous cover.

Under projected warmer and drier climate conditions, the Ponderosa Pine-Gambel Oak PNVT is susceptible to decreases in plant productivity from water limitations and increased heat; increases in insect attacks; colonization of invasive species; longer and more severe fire seasons; and altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., droughts, flash flooding, landslides, windstorms, ice storms). Similar to the Ponderosa Pine-Evergreen Oak PNVT, high risk occurrences could include uncharacteristically intense wildfire due to less moisture, increased rate of insect or disease attack due to warming temperatures, and increasing challenges to regeneration of ponderosa pine following disturbance, especially on warmer, drier areas such as south-facing slopes.

Desired condition descriptions for the Ponderosa Pine-Gambel Oak PNVT were refined considering information published in RMRS-GTR-310 (Forest Service, 2013). This publication is a synthesis of research findings for restoring the composition and structure in the frequent-fire forests of the Southwest and provides a science-based framework for improving ecosystem resiliency under a changing climate.

Desired Conditions for Ponderosa Pine-Gambel Oak Forest

Landscape Scale (10,000 acres or greater)

DC-Veg-17	<p>At the landscape scale, Ponderosa Pine-Gambel Oak PNVF forests have a mosaic of structural stages ranging from young to old trees. Forest structure is variable but generally uneven aged and open in appearance.</p> <p>The forest arrangement consists of small clumps and groups of trees interspersed within variably sized openings of grasses, forbs, and shrubs. The size, shape, and number of trees per group and the number of groups per area vary across the landscape. Tree density may be greater in some locations, such as north-facing slopes and steep-sided valleys at higher elevation.</p> <p>Vegetation conditions (e.g., composition, vertical and horizontal structure and arrangement) provide for the life history, distribution, and natural population fluctuations of native species within the capability of the landscape; especially those birds and mammals that rely on Ponderosa Pine-Gambel Oak PNVF forests for habitat (e.g., northern goshawks, Mexican spotted owls, turkeys, tassel-eared squirrels and other rodents).</p> <p>Vegetation composition resembles historic situations including ponderosa pine overstory with Gambel oak occupying the lower tree canopy. Aspen or Gambel oak patches occur. There is typically an understory of grasses and forbs with occasional shrubs. Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain its presence on suitable sites across the landscape.</p> <p>Old growth occurs throughout the landscape, generally in small areas as individual old growth components, or as clumps of old growth. Old growth components include old trees, snags, coarse woody debris (downed wood), and structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). The forest contains various stages of development (e.g., temporary openings or groups of very young trees) to provide future old growth within the landscape.</p> <p>The ponderosa pine-Gambel oak forest is composed predominantly of vigorous trees, but declining top killed, lightning scarred, and fire scarred trees provide snags and coarse woody debris (greater than 3 inches in diameter). A variety of snag species and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches or greater d.b.h. and average 1 to 2 per acre. Logs (greater than 12 inches in diameter at mid-point and greater than 8 feet long) average 3 per acre within the forested area of the landscape. Coarse woody debris, including logs, ranges from 3 to 10 tons per acre.</p> <p>Grasses, forbs, shrubs, needle cast (fine fuels), and small trees support the natural fire regime. The greater proportion of ground cover is composed of grasses and forbs as opposed to needle cast.</p>
-----------	---

	Frequent, low severity fires, occurring every 1 to 15 years, are characteristic of this forest including throughout the range of northern goshawks and Mexican spotted owls.
--	--

Mid-Scale (100 to 1,000 acres)

DC-Veg-18	<p>Ponderosa pine-Gambel oak forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more productive sites contain more trees per group and more groups per area. Tree density within forested areas generally ranges from 10 to 120 trees per acre and 20 to 80 square feet basal area per acre, with the greatest amount of basal area being contributed by larger trees. Interspaces surrounding tree groups, containing grass, forb, and shrub vegetation, is typically high ranging from 70 to 90 percent of the mid-scale area. Patches of even-aged forest structure are present.</p> <p>Fires burn primarily on the forest floor and do not spread between tree groups as crown fire.</p> <p>Basal area per mature tree group in northern goshawk post-fledgling family areas (PFAs) is 10 to 20 percent higher than northern goshawk foraging areas and the general forest. Northern goshawk nest areas have multiaged forest structure, dominated by large trees with relatively denser canopies than other areas in this PNVT.</p> <p>In areas that contain aspen, Douglas-fir, and white fir, tree densities range from 30 to 100 square feet of basal area per acre and interspaces surrounding tree groups range from 50 to 70 percent of the midscale area.</p> <p>Gambel oak clumps and tree groups with various stem diameters and low-growing, shrubby oak forms are present in variable amounts depending on biophysical site conditions. Large tree-form oaks, snags, and partial snags with hollow boles or limbs also occur within tree groups or as scattered individuals within interspaces across the mid-scale area.</p>
DC-Veg-19	<p>To reduce wildfire behavior and hazards to life and property:</p> <ul style="list-style-type: none"> • Vegetation conditions within the wildland-urban interface (WUI) may be composed of younger and more widely spaced shrub patches and tree groups than for the same PNVTs located outside of WUI areas. • The frequency of disturbance (e.g., prescribed fire, vegetation treatments) within the WUI may be more often than for the same PNVTs located outside of WUI areas.

Fine Scale (less than 10 acres)

DC-Veg-20	<p>Trees typically occur in irregularly shaped groups and are variably spaced with some tight clumps. Crowns in the mid- to old-aged stages are interlocking or nearly interlocking. Interspaces surrounding tree groups are composed of a grass, forb, and shrub mix. Some interspaces contain individual trees. Trees within groups are of similar or variable ages and may contain species other than ponderosa pine. Tree groups are typically less than 1 acre, and at the mature and old stages, consist of approximately 2 to 45 trees.</p> <p>Where Gambel oak comprises more than 10 percent of the basal area, canopy cover greater than 40 percent is common within tree groups.</p> <p>In areas with aspen, Douglas-fir, and white fir present, trees typically occur in irregularly shaped groups, trees within groups are variably spaced, and group sizes generally range from a few trees up to 1.1 acres. Crowns of trees within the mid-aged to old groups are interlocking or nearly interlocking.</p>
-----------	---

Background for Grasslands

There are two grassland PNVTs classified for the Prescott NF: Semi-Desert and Great Basin. Grassland PNVTs are characterized as having less than 10 percent tree cover.

The Semi-Desert Grassland PNVT encompasses roughly 126,000 acres at elevations ranging from 3,000 to 4,500 feet. These grasslands are bounded by the Desert Communities PNVT at the lowest elevations and the Piñon-Juniper Woodlands or Interior Chaparral PNVTs at higher elevations. Species composition and dominance varies based on soils and topography. The more common grass species include black grama, blue grama, hairy grama, tobosa, and giant sacaton. Various shrubs species also inhabit these grasslands including: creosote bush, catclaw acacia, mimosa, burroweed, broom snakeweed, and mesquite.

The Great Basin Grassland PNVT encompasses almost 38,000 acres and intermingles with Piñon-Juniper PNVTs adjacent to the Chino Valley. It is higher in elevation (approximately 4,700 to 7,600 feet) and climatically cooler and moister than the Semi-Desert Grassland PNVT. Vegetation consists mostly of grasses and forbs with interspersed shrubs. Grass species may include, but are not limited to, Indian ricegrass, threeawns, blue grama, needle grass, bottlebrush squirreltail, James' galleta, dropseed, and tobosa grass. Shrub and half-shrub species may include, but are not limited to, saltbush, snakeweed, winterfat, buckwheat, and juniper.

Healthy grasslands are important habitat for a variety of wildlife species and are essential to maintaining pronghorn antelope populations. The grasslands PNVTs of the Prescott NF have undergone dramatic changes over the last 130 years. Changes include encroachment by trees and shrubs, loss of perennial grass cover, loss of cool season plant species, increase in exposed soil surface, and the spread of nonnative annual grasses. Fire plays a key role in the maintenance of grasslands. Fire historically occurred every 10 to 30 years in the Great Basin Grassland PNVT and 2 to 10 years in the Semi-Desert Grassland PNVT.

The Great Basin Grassland PNVT exhibits a low departure from desired conditions in structure and composition; however, without periodic disturbance (such as fire), conditions are expected to

trend away from desired conditions. In contrast, the Semi-Desert Grassland PNVТ shows severe departure from desired conditions in both structure and fire regime.

Under projected warmer and drier climate conditions, the Grassland PNVТs are susceptible to decreases in plant productivity from water limitations and increased heat; increases in insect attacks; colonization of invasive species; longer and more severe fire seasons; and altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., droughts, flash flooding, landslides, ice storms). Grasses make use of moisture in the upper soil layers. Intense precipitation events may lead to increased runoff, but decreased effective water infiltration. This could decrease vigor of native plants and lead to increased colonization of nonnative invasive plant species.

Desired Conditions for Grasslands

Landscape Scale (10,000 acres or greater)

DC-Veg-21	<p>Within Semi-Desert Grassland and Great Basin Grassland PNVТs, perennial herbaceous species dominate and include native grasses, grass-like plants (sedges and rushes), and forbs and, where appropriate, a diversity of shrubs. Woody (tree and shrub) canopy cover is less than 10 percent. Grass communities consist of a diverse mix of cool and warm season species.</p> <p>Composition, structure, and cover provide habitat for native animals associated with grasslands, especially pronghorn antelope, ferruginous and Swainson's hawks, western burrowing owls, and western grasshopper sparrows.</p> <p>On average, fine fuels provide for and maintain the desired fire regime. The desired fire return interval for the Semi-Desert Grassland PNVТ is approximately every 10 to 15 years. The desired fire return interval for the Great Basin Grassland PNVТ is approximately every 10 to 30 years.</p>
-----------	--

Background for Desert Communities

The Desert Communities PNVТ covers approximately 5,900 acres of the lowest elevations of the Prescott NF. They most often have the appearance of a scrubland or low woodland of leguminous trees with intervening spaces held by one to several open layers of shrubs, cacti, and perennial succulents. This PNVТ is found on slopes, broken ground, and multidissected sloping plains.

Historically, weather events such as drought, frost, and wind thinned the dominant overstory plants. Vegetation within the Desert Communities PNVТ is not thought to have supported fuel loads to sustain large fires prior to European habitation of the region. Fires would have been associated with dry lightning coincident with monsoonal storms during years when previous winter precipitation was sufficient to create a thick fine fuel bed of annual plants. Replacement fires were very rare or absent (averaging about once in 100 to 1,000 years). If they occurred, they did so during conditions of extreme fire behavior after consecutive years of above average winter precipitation. These rare fires had tremendous influence on community structure because the dominant overstory plants are extremely susceptible to fires, even those of low intensity.

The vegetation composition and structure within the Desert Communities PNVT are similar to desired conditions. However, nonnative grasses have been invading over the last few decades, providing fuel for uncharacteristic and more frequent fire. Currently, the natural disturbance regime has been altered by the periodic occurrence of human-caused wildfires.

Under projected warmer and drier climate conditions, the Desert Communities PNVT is susceptible to increases in insect attacks; colonization of invasive species; longer and more severe fire seasons; and altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., droughts, flash flooding, landslides, windstorms).

In the Desert Communities PNVT, warming and drying could enhance the invasion of nonnative plant species that are adapted to fire. These species grow quickly in the spring and then dry and cure so that wildfire risks increase. The natural vegetation within this PNVT is not adapted to fire and can require long time periods to reproduce. Fire can greatly change the plant composition and, thus, change the desert plant communities so that birds and other wildlife species may be affected.

Desired Conditions for Desert Communities

Landscape Scale (10,000 acres or greater)

DC-Veg-22	<p>The Desert Communities PNVT is comprised of cacti, succulents, trees, and shrubs with variable vegetation cover ranging from 1 to 20 percent of the dominate overstory plants. Grass cover is inherently low. Nonnative grass species coverage is controlled.</p> <p>Dominant plants include giant saguaro, paloverde trees, cholla and prickly pear cacti, ocotillo, velvet mesquite, catclaw acacia, and jojoba.</p> <p>Natural disturbances are infrequent from drought, frost, and wind. Fire is very rare or absent.</p> <p>Damage to vegetation composition, density, and structure from human-caused fires is infrequent and limited in duration and extent.</p> <p>Saguaros, mesquite trees, and other vegetation large enough to sustain cavity nesting birds are present across the landscape.</p>
-----------	---

Background for Riparian Gallery Forests

The Riparian Gallery Forest PNVT covers approximately 12,400 acres, representing about 1 percent of the forest. The extent of the Riparian Gallery Forest PNVT is based on mid-scale vegetation mapping compiled in 2007. The accuracy of this estimate is uncertain due to the inclusion of nonriparian, upland soils and vegetation in the terrestrial ecosystem survey map units.

Riparian Gallery Forest PNVT occurs along perennial or intermittent streams ranging in elevation from 2,000 to 8,000 feet. It contains two major vegetation communities; cottonwood-willow and mixed broadleaf deciduous forests. The dominant woody vegetation varies in both composition

and structure according to elevation, substrate, stream gradient, and depth to groundwater. Common species include Fremont cottonwood, narrowleaf, Gooding and Bebb willow, Arizona sycamore, velvet and green ash, Arizona alder, Arizona walnut, and box elder. On occasion it can also include various species of oak, pine, or juniper from adjacent uplands. Herbaceous plants include several forbs, sedges, rushes, and grasses.

The Riparian Gallery Forest PNVT exhibits a low departure from desired conditions for vegetation structure and fire regime. However, the spread of nonnative invasive species and soil compaction or loss of vegetation due to visitor use remain as threats to this ecosystem.

Under projected warmer and drier climate conditions, the Riparian Gallery Forest PNVT is susceptible to decreases in plant productivity from water limitations and increased heat; increases in insect attacks; colonization of invasive species; longer and more severe fire seasons; and altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., droughts, flash flooding, landslides, windstorms, ice storms). These events, coupled with increased ambient air and soil temperatures, can create corresponding shifts in plant evapo-transpiration rates, water infiltration, overland flow, erosion, sediment delivery, and loss of organic ground cover.

Desired Conditions for Riparian Gallery Forests

Mid-Scale (100 to 1,000 acres)

DC-Veg-23	<p>Natural ecological processes (e.g., periodic flooding and scouring) promote a diverse plant structure necessary for the recruitment of riparian-dependent species.</p> <p>Compared to surrounding uplands, riparian corridors have characteristics (e.g., surface water, saturated soils) that reduce the frequency and severity of fire. Infrequent fires of high severity and occasionally mixed severity, occurring approximately every 600 years, are characteristic of this PNVT.</p> <p>Vegetation consists of native species that support a range of invertebrate and vertebrate species and are free of invasive plant and animal species.</p> <p>Herbaceous vegetation and other ground covers are present to filter sediments, stabilize streambanks, mitigate effects of flooding, and contribute to infiltration and groundwater recharge.</p> <p>Woody riparian species such as cottonwood, willow, ash, and alder are reproducing with all age classes present. A diverse vegetation structure, including mature trees, snags, logs, and coarse woody debris, is present to provide habitat for riparian-dependent species.</p>
-----------	--

Terrestrial Wildlife

Background for Terrestrial Wildlife

Species diversity and distribution are important to retaining natural components of ecosystems. The Prescott NF evaluated 222 bird and 98 mammal species (Forest Service, 2009c) to determine terrestrial species diversity and viability across the forest. Species were not considered further if:

(1) management activities did not affect the species; (2) there was so little information known that management direction could not be identified; or (3) species appeared to be secure and well distributed. Thirty-three birds, 11 mammals, and 1 reptile¹ were considered further. The majority of those species' habitat requirements could be associated with one or more PNVTs. Therefore, desired conditions for PNVTs and for ecosystem resilience or adaptation provide for conditions that most species require. For a smaller group of species, additional guidance was developed, including desired conditions, objectives (chapter 3), standards and guidelines (chapter 4), or all three.

The following conditions are desired to assist with the protection of terrestrial wildlife species and their associated habitats and to increase the resilience and adaptive capacity of these species and habitats to accommodate expected changes imposed by future climate trends for the Southwest.

Desired Conditions for Terrestrial Wildlife²

Landscape Scale (10,000 acres or greater)

DC-Wildlife-1	<p>Habitats that support populations of Southwestern Region sensitive species provide the ecological conditions that facilitate the life history, distribution, and natural population fluctuations of the species within the capability of the ecosystem.</p> <p>Fire plays a role in maintaining wildlife habitat for species associated with fire-adapted systems.</p> <p>Wildlife in habitats associated with animal movement corridors are free from human harassment³.</p> <p>Avian and mammal fatality and habitat alteration associated with existing and proposed power lines, corridors, energy development (i.e., wind and solar), and cell towers is minimized through implementation of design features and guidelines.</p> <p>Terrestrial habitats are free of negative impacts from nonnative or feral species.</p>
---------------	---

¹ Sonoran desert tortoise (*Gopherus morafki*).

² These wildlife desired conditions are in addition to those related to vegetation and found in the "Vegetation" section of chapter 2.

³ Human activities which could potentially harass wildlife include, but are not limited to, shooting, camping in developed sites, and OHV recreation.

DC- Wildlife- 2	<p>Ecological conditions provide habitat for associated federally listed species. Habitat conditions generally contribute to survival and recovery, and contribute to the delisting of species under the Endangered Species Act (ESA) of 1973 (P.L. 93-205).</p> <p>Improved habitats for candidate and proposed species help preclude species listings as threatened or endangered under ESA.</p>
-----------------------	--

Aquatic Wildlife

Background for Aquatic Wildlife

Aquatic wildlife includes not only fish but also reptiles, amphibians, and invertebrate species (e.g., insects, springsnails). Aquatic habitats occur in perennial and perennial intermittent rivers⁴ and streams, as well as groundwater dependent systems, such as springs and seeps. A similar process as that described above for terrestrial species was applied to determine species that may need guidance in the plan. Of 183 aquatic species considered, 2 reptiles, 2 amphibians, 12 fish, and 3 invertebrates are thought to exist on the Prescott NF and required development of plan guidance (Forest Service, 2009c). Aquatic wildlife are addressed here and also as part of “Watersheds” desired conditions, objectives (chapter 3), and standards and guidelines (chapter 4).

Under projected warmer and drier climate conditions, aquatic species are susceptible to increased water temperatures, altered seasonal discharge events, increases in drought severity during summer flows, and increased predation pressure. Concerns include decreases in waterflow and, possibly, a shorter period of sustained flows in the spring due to reduced winter snowpack. Sustained flows and desired temperatures in the spring are needed for successful spawning. Another concern is the potential for fragmentation of habitat with resulting increases in competition and predation in pools, due to little or no waterflow in some stream segments.

The following conditions are desired to assist with the protection of aquatic wildlife species and their associated habitats, and to increase the resilience and adaptive capacity of these species and habitats to accommodate expected changes imposed by future climate trends for the Southwest.

⁴ Streams other than the Verde River on the Prescott NF are predominantly discontinuous, meaning that there are perennial flowing segments separated by reaches that have intermittent flow; or that they cease to be perennial prior to confluence with a larger stream, with flow sinking into the underlying porous soil or fault/fracture conditions.

Desired Conditions for Aquatic Wildlife

4th Level Hydrologic Unit (Subbasin Scale)

DC-Aquatic-1	<p>Streams, springs, and wetlands with the potential to support native fish and/or other aquatic species provide habitats that are resilient or adaptive to natural disturbances and projected warmer and drier climatic conditions.</p> <p>Quantity and timing of waterflows⁵ are maintained in streams, seeps, springs, and wetlands to retain or enhance aquatic habitat and ecological functions.</p> <p>Water quality is sustained at a level that retains the biological, physical, and chemical integrity of the aquatic systems and benefits survival, growth, reproduction, and migration of native aquatic species.</p> <p>Riparian vegetative communities within these aquatic habitats are intact and trending toward properly functioning condition.</p> <p>Aquatic habitats are free of negative impacts from nonnative plant and animal species.</p>
--------------	--

5th Level Hydrologic Unit (Watershed Scale)

DC-Aquatic-2	Desired nonnative fish ⁶ species are present only where recreational fishing opportunities are emphasized.
DC-Aquatic-3	<p>Ecological conditions provide habitat for associated federally listed species. Habitat conditions generally contribute to survival and recovery, and contribute to the delisting of species under the Endangered Species Act (ESA) of 1973 (P.L. 93-205).</p> <p>Improved aquatic and riparian habitats for candidate and proposed species help preclude species listings as threatened or endangered under ESA.</p>

Social and Economic Resources

The recreation program produces the largest indirect influence on the local economy by providing features that draw tourists to the area. Tourists then spend money on food and lodging. The livestock grazing program has the greatest direct impact on the economy within Yavapai County. Changes in the program could directly affect jobs or income. Some desired conditions that relate

⁵ Generally, sustained spring waterflows as well as cooler water temperatures are needed by fish for spawning. Therefore, the time of year of flows, as well as the stream depth, are important.

⁶ Nonnative fish species include bass, sunfish, certain trout species, and other fish that anglers enjoy. Many of these fish are stocked in streams or lakes to provide a fishing experience, but they can act as predators to native fish species. The desired condition indicates that places where recreational fishing opportunities are emphasized should be separated from places where native fish habitat is emphasized.

to social or economic factors are also referenced in desired conditions for vegetation. In particular, see [DC-Veg-2](#) and [DC-Veg-3](#).

Recreation, Transportation, and Facilities

Background for Recreation, Transportation, and Facilities

In 2006, the Prescott NF developed a niche statement to identify and emphasize the unique types of recreation opportunities provided by the forest:

The Prescott National Forest – Where the Desert Meets the Cool Pines

“The Prescott’s unique mix of climate zones provide for ‘cool zone’ heat relief from the Arizona sun in the summer and a ‘warm zone’ in the winter. The forest offers short duration, day use recreation on trails supported by development that provides staging areas and resource protection. Adventure activities are strategically managed to be compatible with one another to preserve the natural setting and the ecosystems of the forest.”

The mild climate of the Prescott NF encourages year-round recreation activity. Trail and day use are primary activity types and include: off-highway vehicle riding, horseback riding, hiking, biking, hunting, fishing, and wildlife viewing. Most visitors to the forest live in Yavapai County. Maricopa County residents comprise the next largest group, with portions of the Prescott NF located less than 50 miles from the Phoenix metropolitan area.

The developed sites on the Prescott NF encompass campgrounds, picnic areas, lake access, equestrian areas, rental cabins, and a recreational shooting range. Those with the highest use include Thumb Butte, Lynx Lake, Mingus Mountain, Horsethief Basin, and Granite Basin Recreation Areas. The area surrounding the city of Prescott, the Prescott Basin, has the highest concentration of recreation activity on the Prescott NF and limits dispersed camping to designated sites.

The Prescott NF also contains over 800 miles of both motorized and nonmotorized trails. The forest’s recreation niche statement identifies trail and day use as primary uses by visitors; 50 percent of these visitors are from a 20-mile radius of the forest. The Prescott NF had 1,230,500 annual visitors in 2007. Top recreation activities listed as a primary activity by visitors on the forest include hiking and walking, viewing natural features, and driving for pleasure (Forest Service, 2008).

Under projected warmer and drier climate conditions, recreation and transportation facilities are susceptible to increased use for relief from increased temperatures in urban areas and to damage from altered frequency, intensity, timing, and spatial extent of disturbance events (e.g., fire, droughts, flash flooding, landslides, windstorms).

Desired Conditions for Recreation, Transportation, and Facilities

DC-Rec-1	<p>Recreation on the Prescott NF provides opportunities for current and future demographics, as well as those of all abilities, to discover and enjoy the landscape.</p> <p>The number, location, and types of recreation facilities respond to changes in demand. They concentrate use at key locations so that visitors enjoy the cultural and biophysical resources while protecting those resources. Forest users learn from their experience on the Prescott NF and have a better understanding of the ecology of the area.</p> <p>Conflicts between different recreation uses are infrequent.</p> <p>Visitors experience friendly and positive interactions with Forest Service employees and volunteers.</p> <p>Developed recreation sites are safe, clean, and sanitary.</p> <p>Recreation facilities and constructed features (e.g., trails, trailheads) minimize resource impacts, especially those related to watershed integrity.</p> <p>Trails, facilities, or areas eligible for State or National special designation retain their qualifying characteristics.</p> <p>Vegetation within developed recreation areas is diverse, healthy, and free from hazards to public safety. Vegetation contributes to scenic, healthy, natural, and sustainable recreation areas and enriches the visitors' experience.</p> <p>Designated dispersed recreation occurs in areas that can accommodate concentrations of use, thereby lessening impacts to natural and cultural resources of other areas.</p> <p>Signage is accurate, effective, and in appropriate numbers for the recreation setting. Information provided matches that found in brochures and other printed material.</p> <p>Visitors are aware of, and comply with, forest regulations.</p> <p>Permitted recreation uses (e.g., recreation special events or guided activities) are consistent with recreation settings, protection of natural and cultural resources, and community goals.</p>
----------	---

<p>DC-Rec-2 Trails</p>	<p>Trail opportunities are available in a variety of settings that provide differing levels of challenge and seclusion.</p> <p>Trail routes include both point-to-point trails that connect communities and interconnected loops of varying lengths.</p> <p>On designated maintenance level 2 NFS roads, motorized vehicles and their operators comply with State motor vehicle regulations.</p> <p>Trails and trailheads meet the needs of the intended recreation use. For example, trailheads to be used by horseback riders provide adequate parking and turning space for vehicles with trailers.</p> <p>Trail systems meet the diverse needs of a growing population.</p> <p>Conflicts between various types of trail activities are addressed and resolved.</p> <p>Resource impacts due to trail location and use are identified and mitigated.</p> <p>Alternate access is available where changes in land ownership or increased development have eliminated historic access to the national forest.</p> <p>Use of trails and trailheads are consistent with the desired recreation opportunities identified for the trail or area.</p>
<p>DC- Transportation and Facilities- 1</p>	<p>A safe, sustainable, and economical transportation system (roads and trails) exists at a level commensurate with use and need, and balances desire for public access with potential for ecological impacts.</p> <p>A system of sustainable, well maintained and marked roads and trails provides diverse opportunities to safely explore the forest and does not impede wildlife and fish movement.</p> <p>Transportation and trail systems and their classifications are clearly understood by forest visitors.</p> <p>Recreation sites, buildings, dams, and other infrastructure operate as intended and provide a safe environment for people, while minimizing negative impacts to natural resources.</p> <p>Energy efficient and economical facilities incorporate emerging technologies and are placed when and where they can be used effectively.</p>

Wilderness, Wild and Scenic Rivers, Inventoried Roadless Areas, and Other Special Areas

Background for Wilderness, Wild and Scenic Rivers, Inventoried Roadless Areas, and Other Special Areas

The Prescott NF contains 8 designated wilderness areas, totaling over 100,000 acres, and a portion of the Verde Wild and Scenic River. The largest wilderness area on the Prescott NF is Sycamore Canyon Wilderness, which encompasses parts of three national forests: the Prescott NF, Coconino NF, and Kaibab NF. Management of the area is shared among the three units following direction contained in the Coconino National Forest Land and Resource Management Plan. Pine Mountain Wilderness is also managed cooperatively, as it sits atop the boundary between the Prescott NF and the Tonto NF. Direction for the management of the Pine Mountain Wilderness is contained in this Prescott National Forest Land and Resource Management Plan. Of the remaining six wilderness areas managed by the Prescott NF, Granite Mountain Wilderness receives the highest level of visitation due to its proximity to the Prescott Basin.

Extending upstream from Clarkdale to the Prescott NF boundary, approximately 38 miles of the upper Verde River have been determined to be eligible for wild and scenic river designation (Forest Service, 2010b). This is in addition to the 41 miles of existing designated wild and scenic river south of Camp Verde (Forest Service, 2004).

The Prescott NF also contains 11 inventoried roadless areas (IRAs) identified in the national 2001 Roadless Area Conservation Rule (RACR). The RACR prohibited road construction and reconstruction in IRAs and outlined roadless area characteristics. IRAs are characterized as having an undeveloped character and are valued for many resource benefits including wildlife habitat, biological diversity, and dispersed recreation opportunities.

Special areas, such as research natural areas, botanical areas, and geological areas, are designated to ensure protection of specific biological and geological communities. By definition, they must have unique or special characteristics for which specific management is required. Grapevine Botanical Area, a special area located in the Bradshaw Mountains south of Prescott, was designated to protect the 12 perennial springs and associated Arizona alder-Arizona walnut vegetation community found in the area.

Desired Conditions for Wilderness, Wild and Scenic Rivers, Inventoried Roadless Areas, and Other Special Areas

DC-Wild-1	<p>The wilderness character of designated wilderness areas (see map 5 in appendix A) consists of outstanding opportunity for exploration, solitude, risk, and challenge where natural processes influence ecosystems with little or no human intervention.</p> <p>The wilderness character of each recommended wilderness (see map 5 in appendix A) remains intact until a determination for designation has been made by Congress.</p> <p>Within designated wilderness and on related trails and trailheads, native plant communities dominate the landscape and invasive species are nonexistent or in very low abundance.</p>
DC-Wild and Scenic-1	<p>The designated wild and scenic portion of the Verde River and its adjacent areas retain their free-flowing character and outstandingly remarkable values and classifications (see map 5 in appendix A).</p> <p>For the portion of the Verde River that is eligible for wild and scenic rivers designation: outstandingly remarkable values (i.e., archaeological, scenic, fishery, wildlife, recreational, and botanical) and recommended classifications remain intact until further study is conducted or designation by Congress.</p>
DC-IRA-1	<p>The undeveloped character of inventoried roadless areas identified in the 2001 Roadless Area Conservation Rule is retained by restricting the occurrence of road construction and timber harvest activities within their existing boundaries.</p>
DC-Special Areas-1	<p>Special areas contain excellent examples of the ecological features for which they were designated. Their inherent physical and biological processes flourish, with little evidence of human intervention or disturbance.</p> <p>The unique characteristics of the area are protected and maintained, with visitor access and use limited to environmentally sustainable levels that do not compromise the values of the area.</p> <p>Special areas provide opportunities for research, study, observation, monitoring, and educational activities.</p>

Open Space, Lands, and Scenic Values

Background for Open Space, Lands, and Scenic Values

The high rate of population growth within Yavapai County, combined with limited lands for expansion, raises awareness of land use issues involving development and land exchange. The

Prescott NF provides a scenic backdrop of undeveloped and natural appearing landscapes. This contributes to a sense of open space for visitors and those who live in the communities near the forest.

Scenery management on the Prescott NF uses the Forest Service Scenery Management System, a tool for inventory and management of scenic resources. The lands program oversees permits for special uses, such as power line corridors, and responds to opportunities for acquiring or exchanging land within the Prescott NF.

Under projected warmer and drier climate conditions, open space and valued scenic elements are susceptible to changes in landscape vegetation patterns. These alterations in vegetation could result from variations in the frequency, intensity, timing, or spatial extent of wildfires or from other disturbances such as insect and disease outbreaks, drought induced vegetation die-off, or extreme weather events (e.g., flash flooding, landslides, windstorms, ice storms).

Desired Conditions for Open Space, Lands, and Scenic Values

DC-Open Space-1	Open space values including those related to naturally appearing landscapes, wildlife habitat, recreation opportunity, riparian/wetland character, and community needs are retained.
DC-Open Space-2	The natural appearing visual character, free-flowing water, and habitat for federally listed and sensitive species along and within the Verde River are retained or enhanced.
DC-Lands-1	<p>Rights-of-way are in place for legal access needs for private land, public access, administrative access needs, or to resolve legal status deficiencies⁷ at a level that is commensurate with need. Roads that provide access to multiple properties are well maintained.</p> <p>Electronic sites help fulfill public and government need for adequate communication. Sites are co-located where possible to minimize visual, wildlife, recreation and other natural resource impacts.</p> <p>Towers are nonreflective, self-supporting, and less than 200 feet in height to reduce visual impacts. They do not interfere with fire detection or cause radio frequency interference with senior uses⁸, and they are not a source of unacceptable human exposure to radio frequency radiation⁹.</p>

⁷ An example is gaining a right-of-way to cross private land on a road or trail that previously was located on public land.

⁸ Senior communication uses predate later communication applications. The most senior use forms the basis for the communications site designation.

⁹ High-powered radio broadcast towers must have radio frequency radiation studies by the Federal Communications Commission or licensed contractor to determine need for mitigation such as fencing and hazard signage around the tower to prevent public exposure.

	<p>Power lines and pipelines are located and co-located within existing energy corridors when compatible. Distribution lines (less than 69 kV) are generally underground and rights-of-way for aboveground lines retain existing low growing plant communities that do not interfere with overhead lines growing within the corridors.</p> <p>Existing recreation residences¹⁰ are stable in number and blend into a natural forest setting.</p>
DC-Scenic-1	<p>The landscape generally appears natural within the context of native vegetation and landforms.</p> <p>Landscapes on a majority of the Prescott NF appear intact and unaltered by human activity.</p> <p>Evidence of prescribed fire, such as black char on the bases of trees, or evidence of thinning activities, such as slash piles, may be visible but are only present for a relatively short duration.</p>

Minerals

Background for Minerals

The Prescott NF is generally a mineral rich region as demonstrated by the large number of existing and historic mineral patents. The mix of patented (mining claims) lands and NFS lands creates a patchwork of private and Federal ownership within the boundaries of the Prescott NF. While mining gold and copper were important historically, current mining activities on the Prescott NF include five mineral material contracts for removal of flagstone, one contract for schist removal, and one contract for removal of decomposed granite. One large, locatable limestone operation exists. Today, there is interest in both commercial gold mining and recreational gold panning/sluicing on the forest. Placer gold operations involve extracting gold from alluvial deposits such as panning or using a sluicebox. Lode operations, also known as hard rock mining, consist of mining a vein bearing gold or a rock in-place valuable mineral deposit. Most placer mining is conducted by recreational users or small commercial operators.

¹⁰ The recreation residence program began in 1915 after the passage of the Occupancy Permits Act (P.L. 63-293) that allowed summer homes to be constructed in certain parts of Forest Service lands with multiyear occupancy permits. The Forest Service retains ownership of the underlying land.

Desired Conditions for Minerals

DC-Minerals-1	<p>Mineral exploration and development has few impacts on natural and cultural resources.</p> <p>Past and present mine facilities are sufficiently reclaimed to provide for public safety and minimize impacts to cultural and natural resources.</p> <p>Developed recreation areas, such as Lynx Lake Recreation Area, and administrative sites are free from commercial mining activity.</p> <p>Mineral material development balances Forest Service, community, and private needs with potential resource impacts.</p>
---------------	---

Heritage Values

Background for Heritage Values

The Prescott NF heritage program manages a multitude of prehistoric and historic properties. The focus of this effort includes five primary aspects: protection, preservation, stabilization, interpretation, and research. Direction for the management of heritage resources is guided by existing law, regulation, and policy in addition to consultation with tribes that are affiliated with the Prescott NF. Archaeological inventories and tribal consultation are typically completed before ground-disturbing activities occur. If sites or areas are discovered during inventories or project actions, they are evaluated according to National Register criteria, followed by consultation with the State Historic Preservation Officer concerning how these properties might be affected by proposed management activities. Tribes that are affiliated with the Prescott NF are also brought into the consultative process, particularly if sites or areas are involved that might be sacred to them. Compliance with Section 106 of the National Historic Preservation Act of 1966 (P.L. 89-665) and other relevant law, regulation, and policy is not repeated in this plan.

Desired Conditions for Heritage

DC-Heritage-1	<p>Historic and prehistoric sites, including known American Indian sacred places and traditional cultural properties, are preserved and protected for their cultural importance and are free from adverse impacts.</p> <p>Opportunities for interpretation, research, stewardship, and enjoyment of the cultural past are available.</p> <p>Site integrity is protected and maintained for sites which are listed or eligible for listing on the National Register of Historic Places, as well as sites whose status is undetermined.</p>
DC-Heritage-2	<p>Use of forest products by affiliated American Indian nations, tribes, and communities is available for traditional practices.</p>

Chapter 3. Objectives



Trail maintenance with volunteers in the Castle Creek Wilderness

Introduction

Objectives are measurable and time-specific outcomes or accomplishments that contribute to maintaining or trending toward desired conditions during the planning period. They represent proposed projects or activities intended to be accomplished. While objectives are not considered to be targets, they should be feasible and set the priorities for the planning period. The planning period consists of the 10 to 15 years immediately following plan approval. If an objective is no longer appropriate or relevant to achieving desired conditions, the responsible official may determine that a plan amendment or revision is necessary to remove or replace that objective.

Objectives are not required for every desired condition; however, every objective relates to a desired condition. Desired conditions that are linked to each objective are shown in parentheses following each objective statement. Objectives provide the strategy for trending toward desired conditions and are expected to be realistic; however, accomplishment of objectives can be influenced by ecological events, current staffing levels, climatic conditions, and anticipated near-term budgets.

Objectives are also closely related to the monitoring strategy described in chapter 6 of this plan. Questions we ask ourselves in that strategy include, “Did we accomplish the objective?” and “Did

that accomplishment create the outcomes we desired, that is, trending toward forestwide or management area desired conditions?”

The objectives (plan decisions) below are the numbered statements displayed in boxes. The information outside of these boxes are not plan decisions but are examples, estimates, or additional detail to help the reader understand the intent of the objective. The intent is to accomplish the objectives within 10 years after plan approval, but operationally, it may take up to 15 years to achieve some objectives if there are unexpected environmental events or changes in staffing or budget levels.

Vegetation

Vegetation in the plan is organized by potential natural vegetation type (PNVT). PNVTs are coarse-scale units of land that share similar climate components, soil types, vegetation, and natural disturbances. Map 1 in appendix A shows where the various PNVTs are found across the planning area. The vegetation need for change statement reads as follows: “Restore vegetation structure and composition and desired characteristics of fire to selected ecosystems, while responding to citizen concerns related to smoke emissions.” The following objectives (Obj-1 through Obj-6) and associated desired conditions (chapter 2), and standards and guidelines (chapter 4) for vegetation are intended to respond to that need for change.

Obj-1	Within the Semi-Desert Grassland PNVT, allow or introduce wildland fire on 25,000 to 65,000 acres to restore ecosystems conditions, during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Airshed-1 , DC-Veg-1 , DC-Veg-21 , DC-Wildlife-1)
--------------	--

Background and Rationale

- Wildland fire includes prescribed fire and wildfire managed to meet resource objectives. Both tools would be used to maintain or trend toward desired conditions. The opportunity to manage wildfires to meet resource objectives cannot be predicted; however, when conditions allow, such wildfires would be used in conjunction with prescribed fires to meet acreage targets.
- Western meadowlarks are the focal species associated with the grassland PNVTs.
- There are approximately 126,000 acres in this PNVT. The treatments could affect 12 to 67 percent of the PNVT over a 10-year period. Encroachment by trees and shrubs is taking place within this PNVT due to the exclusion of fire. While “natural” fire frequency is estimated at once every 2 to 10 years, current fire frequency averages once every 94 years in this PNVT. Benefits of increasing the frequency of fire disturbance include inhibition of woody species and certain types of nonnative invasive plant species.
- It may be more beneficial to use prescribed fire (as opposed to managed wildfire) along with pretreatment of nonnative invasive species to provide a natural disturbance agent with fewer risks of nonnative plant species invasion and fewer unintended impacts to fences and pastures.
- Accomplishing this objective is expected to provide benefit to pronghorn in most locations and may lead to meeting the intent of objectives 26 and 27 as well as this objective.

- The wide range in acreage to be accomplished reflects uncertainty in being able to time prescribed fires so that: (1) precipitation is adequate to encourage grass recovery and restore ground cover for inhibition of invasive species, (2) prefire preparation is done to avoid spread of nonnative invasive plant species, and (3) coordination with grazing permittees leads to desired fuel levels and understanding on needs for fence protection or postfire fence repair.

Obj-2	Within the Great Basin Grassland PNVNT, allow or introduce wildland fire on 1,000 to 5,000 acres to restore ecosystem conditions, during the 10 years following plan approval. (DC-Airshed-1 , DC-Veg-1 , DC-Veg-21 , DC-Wildlife-1)
--------------	--

Background and Rationale

- Wildland fire includes prescribed fire and wildfire managed to meet resource objectives. Both tools would be used to maintain or trend toward desired conditions. The opportunity to manage wildfires to meet resource objectives cannot be predicted; however, when conditions allow, such wildfires would be used in conjunction with prescribed fires to meet acreage targets.
- Western meadowlarks are the focal species associated with the grassland PNVNTs.
- Approximately 38,000 acres has been classified as Great Basin Grassland PNVNT on the Prescott NF. Historically, frequent (10 to 30 years) high severity fires maintained these open grasslands dominated by perennial bunchgrasses, forbs, and few shrubs. Current vegetation species and arrangement is generally at desired levels. The amount of activity stated in the objective reflects the need to maintain that situation using fire.
- Accomplishing this objective is expected to provide benefit to pronghorn in most locations and may lead to meeting the intent of objectives 26 and 27 as well as this objective.
- Because portions of this PNVNT fall within the checkerboard area of the Prescott NF, the intermixture of national forest and non-Federal ownership could limit the size of treatment areas.

Obj-3	Treat 20,000 to 90,000 acres in Juniper Grassland, Piñon-Juniper Evergreen Shrub, and Piñon-Juniper Woodland PNVNTs using mechanical treatments, wildland fire, or browsing by domestic goats to improve watershed and rangeland conditions, vegetation structure, and wildlife habitat, during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Veg-1 to 7 , DC-Veg-9 , DC-Wildlife-1 , DC-Watershed-1 , DC-Watershed-3)
--------------	--

Background and Rationale

- Wildland fire includes prescribed fire and wildfire managed to meet resource objectives. Both tools would be used to maintain or trend toward desired conditions. The opportunity to manage wildfires to meet resource objectives cannot be predicted; however, when conditions allow, such wildfires would be used in conjunction with prescribed fires to meet acreage targets.
- Juniper Grassland and Piñon-Juniper Evergreen Shrub PNVNTs tend to be highly intermixed, especially where there is an elevation gradient. Therefore, the two PNVNTs

were combined in the objective. Piñon-Juniper Woodland PNVNT was included in this objective to respond to needs for wildlife habitat improvement.

- Using gross acreage from terrestrial ecosystem units, treatment would range from 3 to 16 percent of the total area classified as juniper grasslands, piñon-juniper evergreen shrub, and piñon-juniper woodlands.
- Evidence of erosion has increased in some areas due to less herbaceous ground cover. Lack of herbaceous ground cover can also decrease infiltration of water into the soil.
- Within the Piñon-Juniper Evergreen Shrub PNVNT, increasing density of juniper trees and shrubs leads to increased competition for water, especially if climate predictions of warmer and drier conditions take place. By removing some trees or shrubs, the remaining vegetation would have less competition for water and better survival. In some locations, depending on site conditions, herbaceous ground cover may expand.
- Within the juniper grasslands, the exclusion of fire has allowed encroachment of juniper trees. Reintroducing fire as a disturbance will increase the vigor of grasses and will kill some trees and bushes. Mechanical tree removal will decrease density of juniper trees in locations where fire is not desired or will not carry. The result will be healthier grasslands and enhanced pronghorn habitat including the creation of a more open environment, a trend toward fewer trees and shrubs, and maintenance of the desired open environment within relevant Arizona Game and Fish Department linkages.
- Meeting this objective is expected to provide benefit to pronghorn in many locations and may lead to accomplishment of objectives 26 and 27, as well as this objective.
- Natural fire would be expected to occur once in 30 years within juniper grasslands and once in 60 years within piñon-juniper evergreen shrub. The wide range of acreage to be treated in this objective is based on uncertainty of being able to get fire to spread in these PNVNTs, given reduced coverage of herbaceous ground cover. Mechanical treatments could vary due to uncertainties in demand for biomass. A third source of uncertainty includes projected warmer and drier temperatures along with more intense precipitation activity during the summer season. The net effect would be more runoff and less effective water infiltration due to precipitation intensity. If juniper or woody plant encroachment in grasslands increases as a result of response to changing climate conditions, juniper removal might be effective only in the short term.

Obj-4	Treat 40,000 to 100,000 acres in the Interior Chaparral PNVNT using wildland fire, mechanical treatments, or domestic goats to maintain current conditions, during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Airshed-1 , DC-Veg-1 , DC-Veg-3 , DC-Veg-11 to 12)
--------------	---

Background and Rationale

- Wildland fire includes prescribed fire and wildfire managed to meet resource objectives. Both tools would be used to maintain or trend toward desired conditions. The opportunity to manage wildfires to meet resource objectives cannot be predicted; however, when conditions allow, such wildfires would be used in conjunction with prescribed fires to meet acreage targets.
- Western scrub-jays are the focal species associated with the interior chaparral PNVNT.
- Treatments in interior chaparral are designed to maintain this fire-adapted system (fire frequency in any one location of once every 35 to 100 years) and to protect communities

at the wildland-urban interface. While the objective acreage figures predict that up to 30 percent of the PNVNT could be treated, many of these activities would take place near wildland-urban interface areas such as in the vicinity of Cherry, Crown King, or within the Hassayampa River watershed. Desired conditions ([DC-Veg-12](#)) allow for shortened fire return intervals in such areas.

- Mechanical treatments were included with the fire acreage to allow response to the possible demand for biomass and to allow treatment near structures at the wildland-urban interface.
- If projected warmer and drier conditions do occur, timing of prescribed fire treatments could be adjusted to later fall and winter to find time periods when fuel moistures are such that fires can be controlled, safety goals can be met, and management objectives can be achieved.

Obj-5	Within the Ponderosa Pine-Evergreen Oak and Ponderosa Pine-Gambel Oak PNVNTs, thin or harvest 2,500 to 8,000 acres and introduce or allow wildland fire on 25,000 to 50,000 to restore ecosystem conditions, during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Airshed-1 , DC-Veg-1 to 2 , DC-Veg-13 to 20 , DC-Wildlife-1)
--------------	--

Background and Rationale

- Wildland fire includes prescribed fire and wildfire managed to meet resource objectives. Both tools would be used to maintain or trend toward desired conditions. The opportunity to manage wildfires to meet resource objectives cannot be predicted; however, when conditions allow, such wildfires would be used in conjunction with prescribed fires to meet acreage targets.
- Northern goshawks are the focal species associated with the ponderosa pine PNVNTs.
- The ponderosa pine PNVNTs (Ponderosa Pine-Gambel Oak and Ponderosa Pine-Evergreen Oak) were combined for this objective because they have similar unnatural structural characteristics due to past fire suppression. These characteristics include an increase in young forest with dense canopy cover as well as older forest with dense canopy cover. Both PNVNTs have “natural” fire frequencies of every 6 to 15 years.
- Multiple treatments in the same locations could be carried out, especially at the wildland-urban interface near Prescott and on Mingus Mountain. An example might be thinning and then burning on the same site.
- Dense young and mid-age forests with more than 30 percent tree canopy cover predominate in these PNVNTs. This is due to several factors but is primarily attributed to past fire suppression. The density of trees leads to uncharacteristic crown fires when wildfires do occur. This type of fire is unnaturally severe, can burn so intensely that postfire natural conifer regeneration is delayed, and can threaten lives and property.
- The relatively low number of acres shown for mechanical treatment is due to limitations such as steep slopes, lack of access, and fewer acres that are suitable for commercial thinning and timber harvest (see Chapter 7 – Timber Suitability). Acres of non-commercial mechanical treatment are not included in this objective. If a demand for biomass increased, it is possible that the acreage of mechanical treatments of small woody vegetation could increase, however, slopes and access limitations could still

prevent large scale mechanical treatments. Mechanical treatments could be emphasized in the vicinity of Prescott to decrease smoke impacts.

Obj-6	Treat at least 50 percent of nonnative invasive plants species populations within 1 to 2 years of detection during the 10 years following plan approval. (DC-Veg-1 , DC-Veg-4 , DC-Veg-5)
--------------	---

Background and Rationale

- With the future possibility of warmer, drier climatic conditions and with the Prescott NF location in a transitional elevation between warm desert and the Mogollon Rim, it is likely that higher numbers of nonnative invasive species will begin to be found in the area.
- The 1- to 2-year period between location and treatment allows for treating plants at the stage of their development where methods used can be most effective and allows for doing environmental analysis related to treatment methods. If the opportunity arises to do treatments sooner than 1 to 2 years, this objective should not be viewed as a reason to delay.

Recreation

The recreation need for change statement reads as follows: “Provide sustainable and diverse recreation opportunities that consider population demographic characteristics, reflect desires of local communities, avoid overcrowding and user conflicts, and minimize resource damage.” The following objectives (Obj-7 through Obj-17), as well as related desired conditions (chapter 2) and standards and guidelines (chapter 4) for recreation, transportation, wilderness, and wild/scenic rivers are intended to respond to that need for change.

Obj-7	Add 1 to 2 developed recreation areas during the 10 years following plan approval. (DC-Rec-1 , DC-Wild and Scenic-1)
--------------	--

Background and Rationale

- The Prescott NF proposes new sustainable recreation area development that would respond to changing conditions and help provide recreation opportunities desired by the community. New facilities could include a campground, a day-use area, a boat ramp or developed river access, developed trailheads with toilet facilities, or an interpretive area.
- There may be an opportunity to coordinate with the Verde River communities and add developed recreation sites in a location within the Verde Valley. Other possible locations could include the vicinity of Bear Siding, Perkinsville Bridge, Forest Road 638, or Camp Wood. Such development could provide desired recreation opportunities as well as a Forest Service presence to discourage illegal activity.

Obj-8	Create up to 4 designated dispersed camping areas during the 10 years following plan approval. (DC-Rec-1 , DC-Watershed-2 , DC-Watershed-6)
--------------	---

Background and Rationale

- In the absence of specific restrictions, a person can camp in any location on the forest outside of a developed recreation site; this is often called dispersed camping. However, the number of suitable camping spots can be limited by steep slopes, uninviting vegetation, distance to water, and lack of access. Desirable spots are usually occupied during weekends and holiday periods, and more often if they are near water. This high level of use can lead to soil compaction, trampling of ground vegetation, and unplanned site expansion.
- In an effort to decrease the extent of resource impacts, the Prescott NF proposes to manage dispersed camping in certain areas by designating specific dispersed campsites that would have fewer amenities than developed campgrounds. Following the model established within the Prescott Basin, the Prescott NF now wants to designate dispersed camping in other areas to prevent further damage and to restore natural vegetation.
- Designated dispersed camping would be located in areas where resource impacts could be minimized; possible locations could include selected areas near Crown King, on Mingus Mountain, Camp Wood, the upper Verde River, or in the vicinity of Yellow Jacket Creek.

Obj-9	Reduce the backlog of needed maintenance (i.e., deferred maintenance) at developed recreation areas by 50 to 60 percent from baseline levels during the 10 years following plan approval (DC-Rec-1 , DC-Rec-2-Trails , DC-Transportation and Facilities-1)
--------------	---

Background and Rationale

- A backlog of needed maintenance can build up as visitor impacts increase; this is referred to as deferred maintenance. Future budget allocations may not be sufficient to eliminate this backlog entirely; however, the Prescott NF will strive to stay current on maintenance needs and continue to reduce the deferred maintenance costs by roughly \$164,000 over 10 years. This would represent a 50 percent decrease from the approximately \$327,000 of deferred maintenance costs as shown in INFRA in December 2012. Deferred maintenance at a recreation site includes minor constructed features, buildings, water systems, and wastewater systems.

Obj-10	Develop and implement at least 3 additional strategies to raise awareness of responsible target shooting practices within the Prescott NF to promote visitor safety during the 10 years following plan approval. (DC-Rec-1)
---------------	---

Background and Rationale

- Uncontrolled recreational target shooting surfaced as a source of conflict in meetings in several locations. These conflicts include concerns for personal safety and the accumulation of trash as targets. The communities of Jerome and Castle Hot Springs referenced the need to control recreational target shooting in their community vision statements.
- The Prescott NF has a history of providing a designated target shooting opportunity operated by others through permit. Such a situation has been located west of Prescott for about 50 years, but with population expansion and developments near the range, this permit will not be reissued in the same location. Recreational target shooting is an activity that is desired by many.

- The Prescott NF is open to establishing partnerships to create and operate a new designated target shooting area as a means of promoting visitor safety and raising awareness of responsible target shooting practices.

Obj-11	Construct or improve the facilities at 5 to 20 trailheads during the 10 years following plan approval. (DC-Rec-1 , DC-Rec-2-Trails , DC-Transportation and Facilities-1)
---------------	--

Background and Rationale

- Trailheads may lack adequate signage, parking, or cause erosion from the parking area due to poor location or inadequate planning for drainage. Improvements to the trailheads and signage help to mitigate the potential for conflict among trail users by physically separating different user groups.
- The construction or improvement of trailheads could reduce impacts such as soil compaction or loss of vegetation by providing adequate facilities to meet the needs of a diverse range of users. Examples could include larger parking spots for vehicles with trailers, hitching posts for horses, and designated loading and unloading areas.

Obj-12	Maintain 10 to 20 percent of signage annually. (DC-Rec-1 , DC-Transportation and Facilities-1)
---------------	--

Background and Rationale

- During recreation strategy meetings, people from all three zones (Verde Valley, Agua Fria/Crown King, and Prescott/Drake) consistently referred to lack of signage or lack of effective signage along trails and at trailheads. Adequate signage was deemed very important if more than one type of trail began at the same trailhead. Improved signage could lead to better managed recreation.

Obj-13	Work with partners to maintain and enhance recreational fishing opportunities in 2 lake/pond sites during the 10 years following plan approval. (DC-Aquatic-2)
---------------	--

Background and Rationale

- Activities could include lakeshore clean-up, enhancing opportunities for shoreline fishing, and lake dredging for habitat improvement. Likely partners for these efforts include AZGFD and local volunteer groups.

Obj-14	Develop 2 to 5 additional methods for providing visitor information and education during the 10 years following plan approval. (DC-Rec-1)
---------------	---

Background and Rationale

- In order to “provide sustainable and diverse recreation opportunities that consider population demographic characteristics and reflect desires of local communities,” better communication with visitors and potential visitors is needed. In order to increase communication and gather feedback, the Prescott NF expects to increase and improve effectiveness of visitor contacts through multiple avenues.

- Possible methods could include, but are not limited to, increased interpretation opportunities, information kiosks, improved use of Web site opportunities or social media, and multiple languages.

Obj-15	Mark boundaries of portions of 2 to 5 designated wilderness areas where risk of motorized or mechanized access is high during the 10 years following plan approval. (DC-Wilderness-1)
---------------	---

Background and Rationale

- Wilderness boundaries are important because the wilderness experience is defined, in part, by the type of activities and number of people that are allowed within the area. A key aspect of this is that no mechanized use is allowed within designated wilderness areas, including bicycles or motorized vehicles.

Obj-16	Protect, relocate, or rehabilitate 2 to 5 recreation areas or locations (including trails) that show evidence of resource damage during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Watershed 2 to 5 , DC-Rec-1)
---------------	--

Background and Rationale

- The areas or locations could include, but are not limited to: (1) areas where soils are compacted and vegetation is nearly nonexistent; (2) sites or areas that are located too near streams or watercourses where visitor use adds to problems, such as streambank erosion and sedimentation; (3) areas needing treatment of invasive species along trails or within developed sites; (4) sites that are located near Southwestern Region sensitive plant species where recreation patterns lead to trampling these plants; or (5) sites that are too near cultural resource locations.
- Possible activities that could fulfill this objective include closing and rehabilitating a dispersed site that is located at a spring source, locating camping farther away from Yellow Jacket Creek, or relocating a recreation site out of the upper Verde River flood plain and hardening the pathway to the river to prevent streambank erosion.

Obj-17	Implement 5 to 10 management actions on trails to meet desired conditions listed as part of DC-Rec-2-Trails during the 10 years following plan approval.
---------------	--

Background and Rationale

- The Prescott NF provides approximately 800 miles of trails, equally divided between motorized and nonmotorized recreation opportunities. Portions of these trails receive high use, especially near the Prescott Basin. Other trails have relatively little use. Recreation managers would like to do comprehensive trail planning to determine which trails need improvement in order to provide the desired trail opportunities and attract more use, as well as which trails may not be providing the desired recreation opportunities and are not needed.
- Conflicts occur between different types of recreationists. In order to minimize these, some multiuse trails may be limited to fewer types of recreation opportunities.
- The completion of a comprehensive trail plan could increase recreation opportunities for all users by prioritizing improvements to existing trails or adding new trails to the system.

Watersheds

The watersheds need for change reads as follows: “Retain or improve watershed integrity to provide desired water quality, quantity, and timing of delivery.” Watershed condition is defined as the state of a watershed based upon physical and biological characteristics and processes affecting hydrologic and soil functions (FSM 2521.05). Watershed condition integrity is having all parts (soils, vegetation, streamflow, aquatic species) interacting as they should to provide healthy watershed function that produces desired water quality, quantity, and timing of delivery. The following objectives (Obj-18 through Obj-23), as well as desired conditions (chapter 2), and standards and guidelines (chapter 4) for watersheds respond to the need for change.

Obj-18	Within each high priority watershed, implement 5 to 50 essential projects that improve or maintain watershed conditions during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Watershed-1 to 6)
---------------	--

Background and Rationale

- Macroinvertebrates are the focal species associated with water quality and aquatic habitat.
- High priority watersheds are those identified through an interdisciplinary process that is based on resource value and estimated costs, as well as national and regional policy for watershed condition.
- Activities could include, but are not be limited to: range improvements to distribute grazing, treatments to increase vegetative ground cover, stream stabilization, and mining restoration.

Obj-19	Within 2 to 3 years of detection, implement projects to counter 1 to 3 critical threats to riparian system functionality during the 10 years following plan approval. (DC-Watershed 2 , DC Watershed-6)
---------------	---

Background and Rationale

- Functioning riparian systems include those that have the desired assemblages of vegetation, appear to be within acceptable limits for sediment deposit in flood plains, are not eroded or compacted due to recreation or other uses, and are able to support aquatic related species associated with the habitat.
- While proper functioning condition methodology is considered, other national or regional protocols to determine riparian function may be adopted.
- Activities could include, but are not limited to: vegetation reestablishment, nonnative invasive plant treatments, erosion control, instream habitat improvement, adjusting the timing and season of grazing, or fencing.

Obj-20	Repair or relocate 20 to 100 miles of National Forest System roads or trails that impact watershed integrity during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Watershed-1 to 6)
---------------	---

Background and Rationale

- Macroinvertebrates are the focal species associated with water quality and aquatic habitat.
- Projects could include, but are not limited to, the following activities related to roads and trails: relocation, decommissioning, recontouring, revegetating, improving to standard, or maintaining features for resource protection.
- Adverse impacts to watershed integrity could include, but are not limited to: adding sediment to streams, damaging riparian vegetation, streambank erosion, production of gullies, and flood plain soil compaction.

Obj-21	Obliterate, recontour, or revegetate a minimum of 10 miles of unauthorized routes that are impacting watershed integrity during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Watershed-1 to 6 , DC-Transportation and Facilities-1)
---------------	--

Background and Rationale

- Macroinvertebrates are the focal species associated with water quality and aquatic habitat.
- An unauthorized route is a former road or trail that is not designated for motorized use, or a user-created route that was never designated for motorized use.
- Evidence of adverse impacts to watershed integrity include, but are not limited to: directly or indirectly adding sediment to streams, damage to riparian vegetation, streambank erosion, production of gullies, or flood plain soil compaction.

Obj-22	Improve 15 to 25 stream or drainage crossings associated with roads or trails to facilitate flow and sediment transport during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Watershed-1 to 6 , DC-Rec-1)
---------------	---

Background and Rationale

- Macroinvertebrates are the focal species associated with water quality and aquatic habitat.
- Examples of activities that could be done to fulfill this objective include: ensuring that culvert sizes match what is needed to handle flood flows and avoid washouts that deposit road material into a stream, adjusting culvert height to ensure aquatic species are not prevented from moving along the stream, or installing drainage structures across roads where needed.

Obj-23	Maintain or enhance 25 to 55 discrete sites that are groundwater dependent ecosystems containing seeps and springs during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Watershed-6)
---------------	--

Background and Rationale

- Macroinvertebrates are the focal species associated with water quality and aquatic habitat.
- Seeps and springs occur where water emerges from the ground. They serve as habitat to sustain a variety of plant and animal species. Emergent riparian areas within these systems typically include a combination of sedge species, cattails, bull rushes, and various forbs or woody species.
- Animals, both wildlife and livestock, are attracted to these water sources. Sometimes the spring source is fenced and a portion of the flowing water is piped to a trough a distance from the spring.
- Motorized travel within groundwater dependent ecosystems can cause soil compaction, disturbance to vegetation, or interruption of waterflow. Travel in these locations would generally be restricted.
- Types of activities that could be completed to fulfill this objective include: relocation or closure of designated roads or trails, or obliteration of illegal routes that are located too near a spring or seep. Maintaining or improving fencing around groundwater dependent systems, pasture rotation, or seasonal grazing use could also be applied.

Aquatic and Terrestrial Wildlife Habitat

The need for change related to aquatic habitats states: “Provide desired habitat for native fish species.” The following objectives, along with desired conditions (chapter 2), and standards and guidelines for vegetation, terrestrial wildlife habitat, and aquatic habitat (chapter 4) are intended to respond to the need for change and Federal requirements.

Obj-24	Restore native fish species to 2 to 3 stream reaches during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Wildlife-1 to 2 , DC-Watershed-2 , DC-Watershed-6 , DC-Aquatic-1 , DC-Wild and Scenic-1)
---------------	--

Background and Rationale

- Possible locations for restoration of native species include reaches along the upper Verde River as well as portions of Sycamore Creek, downstream from Pine Mountain Wilderness.
- While the Forest Service manages habitat, work that directly changes fish populations or species composition is achieved in collaboration with the Arizona Game and Fish Department. In addition, any work involving federally listed threatened or endangered fish species could only proceed via consultation with the U.S. Fish and Wildlife Service. Therefore, any direct removal or transplant of fish species would need to be accomplished as a partnership effort with the agencies listed and others.
- Aquatic and riparian species that would benefit from work on the upper Verde River include:
 - Razorback sucker (federally listed as endangered), spinedace (federally listed as threatened), and northern Mexican gartersnake and narrow-headed gartersnake (federally listed as threatened).

- Southwestern Region sensitive species include: lowland leopard frog, desert sucker, Sonora sucker, and roundtail chub.

Obj-25	Modify or remove at least 3 to 5 miles of fence to facilitate pronghorn antelope movement during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Wildlife-1)
---------------	--

Background and Rationale

- Pronghorn are highly dependent on moving long distances in order to retain genetic diversity and to escape predators. Fences can be modified to allow pronghorn to pass under them. A possible location where fence modification is needed is along the southwest corner of Yavapai Ranch.

Obj-26	Treat 15,000 to 90,000 acres to increase pronghorn antelope habitat quantity and quality during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Veg-6 , DC-Veg-21 , Obj-1 to 3)
---------------	---

Background and Rationale

- Arizona Game and Fish Department pronghorn habitat evaluations (Ockenfels et al., 1996a and 1996b) indicate that the grasslands are shrub invaded and lack species richness. Shrub diversity in the open woodland areas is good, although most are so tall that they obstruct pronghorn vision and favor predation of pronghorn. The evaluation further suggests that juniper and tall shrub encroachment has reduced the amount of open grassland, and these areas would benefit from removal of juniper and shrubs. The Central Arizona Grasslands Conservation Strategy is an ongoing interagency effort to prioritize and fund grassland restoration projects in the central Arizona landscape and may be used to determine areas needing treatment.
- Prescribed burning, mechanical tree removal, or other treatments included as part of objectives 1, 2 and 3 may help to fulfill the intent of this objective.

Obj-27	Treat 2 to 3 areas to facilitate pronghorn migration during the 10 years following plan approval. (DC-Ecosystem Resilience-1 , DC-Wildlife-1)
---------------	---

Background and Rationale

- The importance of pronghorn migration is referenced in Arizona Game and Fish Department, Game Management Unit plans. Doing this habitat improvement activity focuses on providing open habitat that allows pronghorn to avoid predators and move across the landscape. An example of one area is the one-quarter mile to one-half mile wide corridor along Forest Road 677.

- Prescribed burning, mechanical tree removal, or other treatments included as part of objectives 1, 2, and 3 are expected to help fulfill this objective.

Obj-28	Improve up to 25 existing and 5 new water developments for wildlife during the 10 years following plan approval (DC-Ecosystem Resilience-1)
---------------	---

Background and Rationale

- While the Forest Service manages habitat, work that directly changes wildlife populations or species composition is achieved in collaboration with the Arizona Game and Fish Department.
- Water developments are structures that provide sources of water for wildlife that inhabit the area. Trick tanks are a type of water development that catch precipitation and direct it to a storage tank. From the storage tank, the water is distributed to drinking troughs for wildlife use.

Open Space, Land Adjustment, and Scenic Values

The need for change related to open space states: “Enhance the value of open space provided by the Prescott NF by defining the visual character within areas near or viewed by those in local communities.” This can be done by maintaining the visual and “wild” character of Prescott NF lands within the viewshed or within and near communities. In addition, during land adjustment activities, open space and scenic quality are considered to be a community need.

Obj-29	Act on up to 10 opportunities, as presented and feasible, to acquire lands within and around the Prescott NF to retain open space values during the 10 years following plan approval. (DC-Aquatic-1 , DC-Open Space-1 to 2 , DC-VV MA-1 .)
---------------	---

Background and Rationale

- Open space is an important factor in the Verde Valley as evidenced by the following excerpts from the “Verde Valley Regional Land Use Plan” (Yavapai County, 2006):
 - “Open space is possibly the most prized asset of the Verde Valley region’s residents.”
 - “Concerns include...preventing the loss of openness, which epitomizes the sense of place in the Verde Valley.”
- The Verde Valley Land Preservation Institute has produced maps of areas where retaining or adding to public land ownership is desirable.
- Opportunities may exist for extending the Verde Greenway along the Verde River.
- The Prescott NF provides a scenic backdrop of undeveloped and natural appearing landscapes. These conditions contribute to a sense of open space for visitors and those who live in the communities near the forest.

Obj-30	Identify and act on up to 10 opportunities to secure legal access to areas where historic access to the national forest has been lost during the 10 years following plan approval. (DC-Lands-1 , DC-Transportation and Facilities-1 , DC-Recreation-2 , DC-WVN MA-1 .)
---------------	---

Background and Rationale

- Access to some areas of the Prescott NF has historically involved National Forest System (NFS) roads that pass through private sections of property. For some of these roads, the Forest Service has formal easements or rights-of-way recorded. However, the majority of these roads have only “prescriptive access rights” involving commonly known, accepted, and continued road use, and there is no formal legal documentation establishing access across the private property to the public lands beyond.
- Some property owners have eliminated public access to national forest lands by installing gates and locks on NFS roads at property boundaries (more than 100 listed on 2012 locked gate inventory).
- The management tools available for acquiring access across private property would depend on the specific circumstances but could include: obtaining or purchasing easements or rights-of-way through direct negotiations with land owners; filing for legal access based on “prescriptive rights” determinations with the help of the Office of General Council; or designing and constructing reroutes where feasible and affordable.
- Opportunities to pursue easements or rights-of-way actions would consider long term transportation system viability, connectivity, public access needs, and partnership opportunities (e.g., AZGFD, BLM).

Obj-31	Apply for 8 to 10 in-stream flow water rights to enable the Prescott NF to provide for channel and floodplain maintenance and recharge of riparian aquifers during the 10 years following plan approval.
---------------	--

Background and Rationale:

- National forests may apply to the State (Arizona Department of Water Resources) to obtain water rights on instream flows within rivers that flow through a national forest. Usually this is based on the need for water to support wildlife and/or recreation.
- If approved, the priority date of the instream flow right would be the date that the application, including 5 years of continuous flow data, is made to the State.
- In Arizona, Federal rights must be registered through the State administrative system where there are ongoing general stream adjudications. These rights are subject to vested, prior appropriation water rights, and therefore, do not interfere with water rights that pre-date Federal rights.
- Currently, instream flow water rights have been received for the portion of the lower Verde River designated as wild and scenic and for Sycamore Creek that flows out of Pine Mountain Wilderness. In addition, an application has been submitted on the upper Verde River, and data collection for four instream flow water rights applications have commenced including Big Bug Creek, Cienega Creek, Cherry Creek, and upper Ash Creek. Further instream flow data collection on other streams will be based on a resource risk assessment analysis.

Chapter 4. Standards and Guidelines



Mexican spotted owl perched on a Gambel-oak tree
(Photo courtesy of Brian Wooldridge, U.S. Fish and Wildlife Service)

Introduction

Standards and guidelines provide sideboards and guidance for project and activity decisionmaking to help achieve desired conditions and objectives. Standards must be followed and can only change with a plan amendment. Guidelines must be followed, but they may be modified somewhat for a specific project if the intent of the guideline is followed and the deviation is addressed in a decision document with supporting rationale. When deviation from a guideline does not meet the original intent, however, a plan amendment is required.

Neither standards nor guidelines restate existing law or policy. For example, there are few related to heritage resources, because the majority of guidance already exists in law or policy direction. They also do not include statements that recommend an analysis, inventory, or monitoring. Management direction not included in the plan is found in numerous laws, regulations, executive orders, Forest Service policies, and additional guidance documents.

The standards and guidelines in this chapter apply to all parts of the Prescott NF. In chapter 5, management area standards and guidelines are listed that apply to only a subset of the Prescott NF—that is, an individual management area.

Similar to desired conditions (chapter 2), standards and guidelines have been divided into three sections: physical, biological, and social/economic factors. Standards and guidelines related to

watershed and soils are found in the “Physical Resources” section. Vegetation standards and guidelines including those for plants, fire as a disturbance process, and wildlife standards and guidelines are found in the “Biological Factors” section. Finally, standards and guidelines related to the management of the following areas are found in the “Social/Economic Resources” section: recreation, land ownership, energy and communication sites, permits, recreation residences, scenic values, minerals, heritage values, range, and scenery.

The standards and guidelines (plan decisions) below are the numbered statements displayed in boxes. The information outside of these boxes are not plan decisions but are provided for background. In addition, standards are differentiated from guidelines with **bold** text.

Associated maps are attached in appendix A.

Physical Resources

Watersheds

Watersheds standards and guidelines provide guidance for trending toward or achieving the following desired conditions labeled as [DC-Ecosystem Resilience-1](#), [DC-Watershed-1 to 6](#), [DC-Veg-1](#), [DC-Aquatic-1](#), and [DC-Transportation and Facilities-1](#) in chapter 2 of this document.

Watersheds (See also Vegetation Standard 2; Range Standard 2 and Guidelines 1 and 5; Minerals Materials Guideline 1 and Locatable Minerals Guideline 2; Wildland Fire Guideline 7; Transportation Guidelines 1, 2, and 6; and Wilderness Standard 2.)	
Std-WS-1	Construction or maintenance equipment service areas shall be located at least 100 feet from the edges of all riparian corridors, seeps, and springs to prevent gas, oil, or other contaminants from washing or leaching into aquatic and riparian habitats.
Std-WS-2	Equipment working on open water and wetlands shall be cleaned prior to entry into such areas to remove gas, oil, and other contaminants.
Std-WS-3	Containment measures shall be employed within 100 feet from the edge of all riparian corridors, seeps, and springs for storage of fuels and other toxicants to prevent degradation of water quality and aquatic habitat.
Guide-WS-1	Ground-disturbing projects should not alter the long-term hydrologic regime within 6 th level hydrologic units (subwatersheds). The long-term hydrologic effects analysis should evaluate: <ul style="list-style-type: none"> • Level of disturbance • Type of activity • Soil, geologic, and streamflow characteristics and expected recovery periods
Guide-WS-2	Watershed projects that provide surface water for municipal use should be given high priority.

Guide-WS-3	Riparian-dependent resources should be managed to maintain and improve productivity and diversity of riparian-dependent species. Riparian communities should provide for the sustainability of aquatic and riparian species.
Guide-WS-4	Adverse impacts to stream channel features (e.g., streambanks, obligate riparian vegetation) should be minimized by modifying management actions. Examples of modification could include, but are not limited to: adjusting timing and season of grazing, limiting use and location of heavy machinery, or avoiding placing trails or other recreation structures where recreation use could negatively affect stream channel features.
Guide-WS-5	Ground cover sufficient to filter runoff and prevent erosion should be retained in riparian corridors, seeps, and springs.
Guide-WS-6	New infrastructure or facilities (e.g., roads, trails, parking lots, trailheads, energy transmission lines) should be located outside of riparian corridors. If crossing such areas with transmission lines is unavoidable, design features should be used to maintain hydrologic function and minimize impacts on riparian habitats.
Guide-WS-7	Infrastructure or facilities locations that lead to erosion or negative impacts to riparian systems should be mitigated/corrected. If no permanent correction is possible, they should be relocated outside of riparian corridors as opportunities arise.
Guide-WS-8	Operation of heavy equipment, such as dozers, backhoes, or vehicles, in stream channels, seeps, and springs should be avoided. If use of equipment in such areas is required, site-specific design features should be implemented to minimize disturbance to soil and vegetation. Restoration or stabilization should occur immediately following disturbance.
Guide-WS-9	Along perennial streams, perennial intermittent streams, and spring ponds, mitigations such as offsite water for livestock should be provided to reduce impacts on riparian communities and groundwater dependent sites.
Guide-WS-10	Measures that restrict use should be considered as a way to mitigate recurring negative impacts to aquatic species and riparian plants. These could include, but are not limited to: installation of barriers, road closures, area closures, or seasonal restrictions.
Guide-WS-11	Watershed projects that increase herbaceous ground cover within piñon-juniper PNVTs should be given high priority.

Soils

Soil guidelines provide guidance for trending toward or achieving desired conditions labeled as [DC-Watershed-1](#), [DC-Watershed-3](#), [DC-Veg-6 to 7](#), [DC-Veg-9](#), [DC-Veg-13](#), [DC-Veg-17](#), [DC-Veg-23](#), and [DC-Transportation and Facilities-1](#) in chapter 2 of this document.

Soils (See also Watersheds Guidelines 1, 5, 7, and 8; Vegetation Guideline 3; Transportation Guidelines 2 and 6; Wilderness Standard 2; Scenic Guideline 2; All Minerals Standard 1; Locatable Minerals Standard 3 and Guideline 1; and Heritage Guideline 1.)	
Guide-Soils-1	Projects should be designed to limit activities that would cause long term impacts to soils such as loss of ground cover, severely burned soils, detrimental soil displacement, erosion, puddling, or compaction. Where disturbance cannot be avoided, project-specific soil and water conservation practices should be developed.
Guide-Soils-2	Down logs and coarse woody debris should be retained at the appropriate tonnage per PNVT as outlined in the “Vegetation” desired condition sections to retain soil productivity.
Guide-Soils-3	Operation of heavy equipment, such as dozers, backhoes, or vehicles, on slopes with a grade of 40 percent or greater should be avoided. If use of equipment in such areas is required, site-specific design features should be implemented to minimize disturbance to soil and vegetation.
Guide-Soils-4	Project-specific design features to avoid soil impacts should be used when projects occur on slopes with a grade of 40 percent or greater or on soils that are sensitive to degradation when disturbed.
Guide-Soils-5	Ground disturbing activity should be avoided when the soil moisture level is such that activity would cause damage to the soil character or function.

Biological Resources

Vegetation

Vegetation standards and guidelines provide guidance for trending toward or achieving desired conditions labeled as [DC-Ecosystem Resilience-1](#), [DC-Watershed-3](#), [DC-Veg-4 to 5](#), [DC-Veg-22](#), [DC-Aquatic-1](#), [DC-Transportation and Facilities-1](#), and [DC-Minerals-1](#) in chapter 2 of this document.

Vegetation (See also Range Guidelines 4, 5, and 6; Minerals Materials Guideline 5; Locatable Minerals Guideline 2; Lands Guidelines 5 and 6; Recreation Guideline 4; and Wilderness Standard 2.)	
Std-Veg-1	Collection of Southwestern Region sensitive plants shall occur for research or scientific purposes only.

Std-Veg-2	When treating nonnative and invasive plant species, design features in appendix B of the “Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds” (Forest Service, 2005a) or the most current direction must be followed to protect endangered, threatened, proposed, and candidate wildlife and plant species and their habitats.
Guide-Veg-1	Design features and/or mitigation measures should be incorporated in all Forest Service projects, as needed, to insure that Southwestern Region sensitive plant species do not trend toward listing as threatened or endangered species.
Guide-Veg-2	Applicable design features in appendix B—Design Features, Best Management Practices, Required Protection Measures and Mitigation Measures—from the “Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds” (Forest Service, 2005a) or more current direction—should be followed in treating nonnative invasive plant species and for managing site disturbing projects and maintenance.
Guide-Veg-3	Efforts to improve severely disturbed sites, especially those within the vicinity of occupied Southwestern Region sensitive plant species habitat, should be undertaken to reduce nonnative invasive plant species colonization, protect soils, and improve watershed condition.
Guide-Veg-4	In choosing materials for revegetation, the following should be used: <ul style="list-style-type: none"> • Plant or seed materials that are appropriate to the site, capable of becoming established, and are not listed as a State noxious weed species. • Certified weed-free seed and weed-free erosion control materials.
Guide-Veg-5	In cases where plant collection permits are issued, collecting seeds or cuttings should be encouraged; while digging or physically removing whole plants should be discouraged.
Guide-Veg-6	Within the Verde Formation: <ul style="list-style-type: none"> • New developments for mineral materials and motorized trails should be located outside of areas identified as medium or high potential rare plant habitat. • Plant surveys for Southwestern Region sensitive species should be carried out before using any heavy equipment for the implementation of projects.

Guide-Veg-7	<ul style="list-style-type: none"> Projects in forested and woodland communities that change stand structure should generally retain at least historic frequencies of trees by species across broad age and diameter classes at the mid-scale. As such, the largest and oldest trees are usually retained. Project design should also identify replacement features to assure continuous representation of old growth over time. Features that should be retained include: old trees, dead trees (snags), downed wood (coarse woody debris), and diverse stand structure.
Guide-Veg-8	Landscape scale restoration projects should be designed to spread out treatments (e.g., wildland fire, mechanical thinning) spatially and/or temporally to reduce implementation impacts and allow for recovery, establishment, and regrowth of native vegetation.

Terrestrial Wildlife

Terrestrial wildlife standards and guidelines provide guidance for trending toward or achieving desired conditions labeled as [DC-Ecosystem Resilience-1](#), [DC-Veg-1](#), [DC-Veg-4](#), [DC-Veg-6 to 23](#), [DC-Wildlife-1 to 2](#), [DC-Transportation and Facilities-1](#), [DC-Lands-1](#), and [DC-Minerals-1](#) in chapter 2 of this document.

Terrestrial Wildlife (See also Wildland Fire Guidelines 2, 5, and 7; Locatable Minerals Guideline 2; Lands Guidelines 2, and 4; Range Standard 1 and Guidelines 2 and 6; Wildland Fire Guidelines 2, 5, and 7; and Transportation Guidelines 1, 3, and 5.)	
Guide-WL-1	Habitat management objectives and terrestrial species protection measures from approved recovery plans should be applied to activities and special uses occurring within federally listed species habitat ¹ .
Guide-WL-2	<ul style="list-style-type: none"> Design features and mitigation measures should be incorporated in all Forest Service projects as needed to ensure that Southwestern Region sensitive species do not trend toward listing as threatened or endangered species. Design features and mitigation measures should be incorporated in all Forest Service projects as needed to ensure compliance with other Federal laws governing wildlife such as, but not limited to, Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act.
Guide-WL-3	<p>For pronghorn antelope, the following should occur:</p> <ul style="list-style-type: none"> When scheduling activities in pronghorn fawning areas, provide adequate cover and time activities to minimize disturbance.

¹ Recovery plans can be found on the following Web site: www.fws.gov/endangered/

	<ul style="list-style-type: none"> • Evaluate opportunities to enhance pronghorn migration routes when identifying priorities for vegetation treatments within grassland PNVTs. • Use fencing that allows pronghorn passage when replacing fences or building new fences. Specifications should be based on most recent AZGFD fencing guidelines related to wire heights, distance between posts, and distances between strands of fence wire. • As pronghorn habitat improvements to maintain pronghorn travelways are proposed, work done by AZGFD and other partners should be considered. <p>Within identified pronghorn habitat, juniper trees that have been cut down should be treated so that pieces lie no higher than 18 inches above the ground.</p>
Guide-WL-4	For cavity nesting birds, snags should be retained at levels indicated in PNVT desired condition statements, if available, and replaced at natural recruitment rates.
Guide-WL-5	For raptors as each nest site (e.g., stick nest, cliff, ledge, cavity) is identified: <ul style="list-style-type: none"> • Size and structure of raptor species' nest stands² should be maintained. • Disturbance at nest sites during the breeding season should be minimized.
Guide-WL-6	For bats, the following should occur: <ul style="list-style-type: none"> • Where known bat use and concentrations of bats occur (e.g., maternity colonies, hibernacula, or seasonal roosts), measures to maintain habitat and reduce disturbance by human activities through use of seasonal or permanent access restrictions should be used. These habitats generally include abandoned mines, caves, bridges, rock crevasses, old buildings, or tree snags. • Bat occupancy should be assessed when considering closing abandoned mines (and caves). • When closing mines or caves occupied by bats, use appropriate closure protocols, and consider the installation of bat-friendly closure devices. • Containment and decontamination procedures should be used to avoid spread of white-nose syndrome (<i>Geomyces destructans</i> fungus). Forest Service guidance dated July 21, 2010, or most recent decontamination procedures should be used.

² A nest stand includes the nest site and surrounding area that provides nest protection and desired vegetative structure to enhance reproductive success of the species using the nest.

Guide-WL-7	<p>Where goshawks exist:</p> <ul style="list-style-type: none"> • A minimum of six nest areas (known and replacement) should be located per territory. Goshawk nest and replacement nest areas should generally be located in drainages, at the base of slopes, and on northerly (northwest to northeast) aspects. Nest areas should generally be 25 to 30 acres in size. • Goshawk post-fledgling family areas (PFAs) of approximately 420 acres in size should be designated surrounding the nest sites. • Human presence should be minimized in occupied goshawk nest areas during nesting season of March 1 through September 30. <p>Management activities and human uses for which the Forest Service issues permits (excluding livestock permits) should be restricted within active nest stands during the active nesting period unless disturbance is not likely to result in nest abandonment.</p>
Guide-WL-8	<p>Projects should be designed to minimize the long-term impacts to wildlife from human activities in or adjacent to animal movement corridors.</p>
Guide-WL-9	<p>Water developments or open impoundments, such as those for wildlife, livestock, or mining operations, should incorporate design features to prevent animal entrapments or assist in escape.</p>
Guide-WL-10	<p>All open top vertical pipes with an inside diameter greater than one inch should incorporate design features to prevent animal entrapments. Examples could include pipe used for fences, survey markers, building plumbing vents, or sign posts.</p>

Aquatic Wildlife

Aquatic wildlife standards and guidelines provide guidance for trending toward or achieving desired conditions labeled as [DC-Ecosystem Resilience-1](#) and [DC-Aquatic-1](#) in chapter 2 of this document.

Aquatic Wildlife (See also Vegetation Standard 2; Locatable Minerals Guideline 2; and Transportation Guidelines 1 to 3.)	
Guide-Fish/Aquatics-1	Habitat management objectives and aquatic/riparian species protection measures from approved recovery plans should be applied to activities and special uses occurring within federally listed species habitat ³ .
Guide-Fish/Aquatics-2	Design features, mitigation, and project timing considerations should be incorporated into ground-disturbing projects that may affect Southwestern Region sensitive species' occupied habitat near streams, seeps, and springs. Examples include, but are not limited to: undisturbed areas, timing restrictions, adjusted intensity of use, and avoiding use of large equipment.
Guide-Fish/Aquatics-3	Water developments (e.g., a diversion or well) should be avoided near streams or seeps and springs where there is high risk of dewatering aquatic habitats.
Guide-Fish/Aquatics-4	<p>To prevent the spread of invasive species and fungal disease within aquatic habitats, the following should be cleaned of plant, animal, and mud material before coming into the Prescott NF:</p> <ul style="list-style-type: none"> • Mechanized equipment and tools used for projects • Equipment (including suction dredges and hoses) • Watercraft, boating equipment, and personal gear (e.g., personal flotation devices, waders, wading boots/shoes) used for projects or surveys • Gear used for permitted activities <p>Items should again be cleaned at takeout and suction devices should be drained and cleaned prior to leaving the project site.</p>

³ Recovery plans can be found on the following Web site: www.fws.gov/endangered/

Wildland Fire

Fire standards and guidelines provide guidance for trending toward or achieving desired conditions labeled as [DC-Ecosystem Resilience-1](#), [DC-Airshed-1](#), [DC-Watershed-1](#), [DC-Veg-6 to 15](#), [DC-Veg-17 to 19](#), and [DC-Veg-21 to 23](#) in chapter 2 of this document.

Wildland Fire (See also Wilderness Standards 2 to 4 and Guidelines 8 to 10.)	
Std-Wildland Fire-1	During response to wildland fire, risks to firefighters and the public shall be mitigated⁴. Protection of human life overrides all other priorities.
Std-Wildland Fire 2	Within the PNVt called Desert Communities (see map 1 in appendix A), fire shall not be used as a tool for management and all fires will be suppressed.
Std-Wildland Fire-3	Slash piles shall not be located in places or burned at times that will impact identified cultural or heritage sites.
Guide-Wildland Fire-1	<p>Determinations of responses to wildfire should be based on risk assessments that include preseason analysis and review as well as on-scene and immediate risk assessments by those initially responding to the wildfire incident. Such assessments should be on an appropriate scale and timeline relative to the time of the assessment and the time available during the incident. Such risk assessments should include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Evaluation of the threats to firefighter and public safety • Evaluation of the threats to both natural and human-made resource values • Evaluation of seasonal and/or climatic conditions • Evaluations of cost-effective strategies that contribute to the success of the appropriate wildfire objective(s)
Guide-Wildland Fire-2	Strategies to manage wildland fire (wildfire and prescribed fire) that restore and maintain the natural fire regime of affected PNVts, should be encouraged.
Guide-Wildland Fire-3	Within the protection zone boundary on map 6 (see appendix A), a management objective of protection should be used to manage wildfires to minimize the risk of loss or damage to human life and property.
Guide-Wildland Fire-4	Outside of the protection zone boundary on map 6 (see appendix A), responses to wildfire should consider including other objectives beyond a single objective of suppression or protection.

⁴ Mitigation such as early detection, evacuations, or indirect suppression tactics can be used to minimize risks to firefighters and the public; however, risks are always present to a varying degree depending on weather, terrain, and fuel conditions.

Guide-Wildland Fire-5	Mechanical or manual treatment of hazardous fuels should be considered where the use of wildland fire (wildfire and prescribed fire) may cause unacceptable damage to other resources or pose an unacceptable risk to life and private property.
Guide-Wildland Fire-6	For fires managed for resource benefits and prescribed fires, amount of scorch and char should be minimized on trees in areas with a high scenic integrity objective that are visible from concern level 1 and 2 roads, unless risk to firefighters and public make this impractical.
Guide-Wildland Fire-7	Project-specific design features to avoid undesired impacts should be used when fire operations occur within or near riparian corridors or seeps and springs. For example, provide screens on water hoses when drafting water to prevent the entrapment of fish.
Guide-Wildland Fire-8	Give wildland-urban interface areas high priority for fuel reduction treatments ⁵ .
Guide-Wildland Fire-9	Project-specific design features to avoid undesired impacts should be used when fire operations occur within a quarter of a mile of a developed campground. Example could include a no fire treatment buffer around campsites, using existing fire barriers when possible and retaining vegetation between campsites for screening purposes.

Social and Economic Resources

Recreation, Transportation, and Facilities

Recreation management includes providing a variety of recreation opportunities, such as camping, hiking, or driving. It also includes education and interpretation. Standards and guidelines related to recreation management provide guidance for trending toward or achieving [DC-Aquatic-2](#), [DC-Rec-1](#), [DC-Rec-2-Trails](#), [DC- Transportation and Facilities-1](#), and [DC-Minerals-1](#) in chapter 2 of this document.

Recreation (See also Vegetation Standard 2; Locatable Minerals Standard 1; and Lands Guideline 2.)	
Std-Rec-1	Only designated roads, motorized trails, and motorized use areas as depicted and described on the motor vehicle use map are open to public motorized vehicle use.

⁵ Wildland-urban interface includes those areas of resident populations at imminent risk from wildfire, as well as human developments having special significance. These areas encompass not only the sites themselves, but also the continuous slopes and fuels that lead directly to the sites regardless of the distance involved.

Std-Rec-2	Only designated roads, motorized trails, and motorized use areas depicted and described on the motor vehicle use map are open for motorized big game retrieval. Motorized big game retrieval is precluded in areas where motorized travel is prohibited, such as wilderness.
Guide-Rec-1	<p>For the purpose of motorized big game retrieval:</p> <ul style="list-style-type: none"> • Use of motor vehicles should be limited to within 1 mile of designated roads and motorized trails to retrieve a legally hunted and tagged elk during elk hunting seasons as designated by the Arizona Game and Fish Department, and for 24 hours following the end of each season. Only one vehicle (i.e., one trip in and one trip out) per harvested animal should be operated off of designated roads and motorized trails. • Hunters should use the most direct and least ground-disturbing route to accomplish the retrieval. • Motorized big game retrieval should not occur when conditions are such that travel would cause damage to natural and/or cultural resources. • Motor vehicles should not cross riparian corridors, streams, and rivers except at hardened crossings or crossings with existing culverts.
Guide-Rec-2	<p>When projects are carried out, they should meet the minimum characteristics for recreation opportunities and settings as classified in the Recreation Opportunity Spectrum (ROS) inventory and displayed in map 3, appendix A.</p> <ul style="list-style-type: none"> • Areas that are identified as roaded modified and located one-half mile on each side of existing power or gas lines should be managed as semiprimitive motorized. • Motorized use within areas identified as providing a nonmotorized recreation setting may take place on a case-by-case basis as documented in site-specific permits. Examples of such permits include, but are not limited to: grazing permits, recreation event permits, or communication site permits.
Guide-Rec-3	Customer services should meet evolving customer needs by being available in a variety of formats, locations, and timeframes.
Guide-Rec-4	Native plant species, when suitable and available, should be used during the design of new or improved recreation sites. Invasive weeds should be removed or treated on existing sites before they become widespread within recreation sites.
Guide-Rec-5	Unauthorized travel routes should be returned to natural conditions to discourage continued use.
Guide-Rec-6	Management tools (e.g., education, engineering, enforcement) should be used to prevent resource damage due to recreation activities. Examples of such tools include, but are not limited to: traffic control devices, designation of campsites, time limits, site rotation, group size limitation, registration, public contact,

	written information, permits, seasonal closures, fencing, enforcement activity, and current information posted on the Internet.
Guide-Rec-7	Redesign, restoration, or rehabilitation of recreation sites should be carried out where recreation activities have caused unacceptable natural and social resource impacts.
Guide-Rec-8	New developed campgrounds and designated dispersed campsites should be located away from riparian areas, flood plains, and other environmentally sensitive areas.
Guide-Rec-9	To guide appropriate motorized use, accurate and understandable signs should be placed in effective locations to discourage encroachment of motorized vehicles into nonmotorized areas.
Guide-Rec-10	Engineering tools should be used to minimize recreation and livestock grazing conflicts. Tools could include, but are not limited to: trail design that avoids stock tanks, incorporation of self-closing gates, use of ATV cattle guards, or gates around cattle guards for horseback riders.
Guide-Rec-11	Within developed campgrounds, vegetation removal should promote visitor safety, scenic values, and vegetation health.
Guide-Rec-12	In areas outside of the Prescott Basin Management Area, camping by each individual or group should not exceed a period of 14 days in a 30 consecutive day period within the Prescott NF, unless specifically designated otherwise ⁶ .
Education/Interpretation (See also Recreation Guidelines 6 and 9; Heritage Guideline 2.)	
Guide-Interp-1	<p>Activities should be designed to inform and educate forest visitors about the following topics related to natural and cultural resources:</p> <ul style="list-style-type: none"> • Awareness and appreciation of resource and land stewardship principles • Wilderness ethics, values, and opportunities • Rationale for limitations on visitor use such as designation of motorized trails and areas or short-term restrictions related to wildlife reproduction • Multiuse trail etiquette • Ecological importance of riparian systems • Cultural heritage values • Geology and mining history • Forest health activities, such as fuels management that leads to reduced risk of intense fire; complexity, risks and benefits of wildland fire management; and the nature of visual changes due to such activities.

⁶ See Prescott Basin Management Area in chapter 5 for guidance related to this area.

	<ul style="list-style-type: none"> • Livestock grazing and the need to respect fences, gates, and vegetation for multiple uses • Value of native plant and animal species and awareness of nonnative invasive species issues
Transportation and Facilities (See also Watershed Guidelines 1, 4, 6 to 8, and 10; Soil Guidelines 4 and 5; Wildlife Guidelines 2 and 8 to 10; Fish/Aquatics Guidelines 2 and 4; Recreation Standard 1 and Guidelines 5 to 10; Scenic Values Guideline 2; and Heritage Guideline 2.)	
Guide-Trans-1	Where the creation of alternate routes does not lead to excessive damage to other resources, opportunities to relocate and restore motorized roads or trails in riparian areas, and in proximity to other watercourses, should have priority.
Guide-Trans-2	Roads and trails removed from the transportation network should be rehabilitated as soon as possible. Treatments may include: reshaping travelways, removal of stream crossing structures, restoring and armoring natural drainages, stabilizing ground surface, revegetation, and maintenance or restoration of fish passage.
Guide-Trans-3	Roads and trails should be designed to not impede terrestrial and aquatic wildlife species movement and habitat connectivity .
Guide-Trans-4	Seasonal road and trail closures or other management methods should be used to manage and protect resources and infrastructure.
Guide-Trans-5	To avoid unintended entrapment, wildlife friendly design for cattle guards should be incorporated for new and replacement installations.
Guide-Trans-6	When system roads are constructed or reconstructed, efforts should be focused on reducing cumulative watershed effects. This could include, but is not limited to: using design features that minimize sedimentation, reduce the number or length of system roads, or rehabilitate unneeded system roads and user-created routes.

Wilderness and Wild and Scenic Rivers

Wilderness is managed to perpetuate and, where needed, to restore wilderness character. Preserving wilderness characteristics is the overriding consideration; economy, convenience, commercial value, and comfort are not criteria of wilderness management. Wild and scenic rivers are managed to maintain their outstandingly remarkable values. Standards and guidelines related to wilderness and wild and scenic rivers provide guidance for trending toward or achieving [DC-Wild-1](#) and [DC-Wild and Scenic-1](#).

Wilderness (See also Minerals Materials Guideline 4.)	
Std-Wild-1	Wilderness characteristics and values shall take precedence over recreation uses where conflicts occur.
Std-Wild-2	Natural ecological processes shall be allowed to occur freely in wilderness to the extent that they retain the wilderness character, except where public and firefighter safety and private property is put at risk. Activities allowed in wilderness shall be managed to preserve the wilderness character and value.
Std-Wild-3	All fire management actions within wilderness shall be conducted in a manner compatible with overall wilderness desired conditions including the character and values associated with each individual wilderness area.
Guide-Wild-1	Where agency or applicant objectives can be met outside of designated wilderness, special use permits should not be issued in wilderness.
Guide-Wild-2	Wilderness maximum group size should be limited to 15 people except for occasional Forest Service maintenance crews, organized rescue parties, or firefighting forces performing official duties.
Guide-Wild-3	Unless otherwise approved under permit, the maximum size of a party traveling or camping at one location with riding or pack animals should be limited to 10 animals.
Guide-Wild-4	Wilderness boundary posting should be maintained in areas where nonconforming use is likely to occur.
Guide-Wild-5	Where active intervention is warranted to preserve the wilderness character, corrective activities should be initiated for areas that become degraded as a result of human activities.
Guide-Wild-6	Facilities at wilderness trailheads should be consistent with the level of use and Recreation Opportunity Spectrum (ROS) setting.
Guide-Wild-7	Minimum Impact Suppression Tactics (MIST) should be used when managing both wildfire and prescribed fire within wilderness.
Guide-Wild-8	Helispots, spike camps, and water source locations outside of wilderness should be considered over locations within designated wilderness.
Guide-Wild-9	Decisions for the appropriate suppression tool or tactic in the wilderness should receive the same considerations for firefighter and public safety and the protection of values at risk as they would outside of wilderness. If such considerations are not urgent, the use of retardant in wilderness should be avoided if possible.
Guide-Wild-10	Management actions should maintain the wilderness characteristics of a recommended wilderness area until a determination for designation has been made by Congress.

Wild/Scenic Rivers (See also Minerals Materials Guideline 4.)	
Std-W&S-1	Management Standards found in chapter 3 of the “Verde Wild and Scenic River Comprehensive River Management Plan for Coconino, Prescott and Tonto National Forests” (Forest Service, 2004) shall be incorporated into management activities.
Std-W&S-2	Within river segments that are eligible for wild/scenic river designation, identified outstandingly remarkable values shall be afforded adequate protection, subject to valid existing rights, until the eligibility determination is superseded (i.e., the segment is determined not suitable for designation or Congress makes a decision regarding designation). Authorized uses shall not be allowed to adversely affect either eligibility or the tentative classification, (i.e., actions that would change a classification from wild to scenic).

Lands and Special Uses

Standards and guidelines related to management of NFS lands (including acquisition and exchange, rights-of-way, energy corridors, communication sites, and recreation residences) provide guidance for trending toward or achieving [DC-Wildlife-1](#), [DC Watershed-1](#), [DC-Open Space-1](#), and [DC-Lands-1](#) in chapter 2 of this document.

Lands Management and Special Uses (See also Recreation Guideline 2.)	
Std-Lands-1	New recreational residences shall not be established.
Std-Lands-2	Recreational residences shall be occupied no less than 15 days per year and shall not be used as full-time residences.
Guide-Lands-1	Right-of-way authorizations should help provide adequate access to the Prescott NF. When responding to requests for new access authorizations, reciprocity should be sought to ensure administrative and public access to forest land.
Guide-Lands-2	When responding to land exchange proposals as presented, consideration should be given to the effects they have on visual characteristics; cultural resources; recreation opportunities; threatened, endangered or sensitive species impacts; and community vision statements. In coordination with general factors to consider in 36 CFR 254.3(1), proposals for acquisition should meet one or more of the following criteria: <ul style="list-style-type: none"> • Lands within designated wilderness • Lands that contain important wildlife habitat, including that needed for species viability, such as habitat needed to maintain migration patterns or important habitat linkages • Wetlands, riparian areas, and other water oriented lands

	<ul style="list-style-type: none"> • Lands that contain unique, natural, or cultural values • Lands that provide needed access, protect public lands from fire or trespass, or prevent damage to resources
Guide-Lands-3	<p>Lands offered by the United States in land exchange should generally meet one or more of the following criteria:</p> <ul style="list-style-type: none"> • Lands needed to meet the needs of communities and the public, such as land for a water treatment plant • Lands where public land management would be improved by transferring them to others • Lands that have lost their wildland character
Guide-Lands-4	<p>The following guidelines apply to communication sites:</p> <ul style="list-style-type: none"> • Height of towers, including appurtenances (attachments), should be less than 200 feet above natural ground level⁷. Exceptions to the height limitation may be granted by the forest supervisor, if allowing an increase in height would result in placement of fewer towers, or if a greater height is necessary for emergency services or homeland security. The applicant must prove that the requested height is the minimum necessary to provide communication services. • They should help fulfill the public and government need for adequate communication sites and should strive to find a balance between the availability of low power versus high power sites. • Communication site management plans, including site boundaries, should be implemented at each communication site. • The use of existing facilities (i.e., colocation) should be maximized prior to authorizing new facilities. • Access to electronic sites should be maintained at a level sufficient to provide day-to-day commercial frequency management. • New authorizations for facility managers should include the requirement that the facility manager provide shared resources such as backup generators and grounding systems, fuel containers, solar generating systems, access ways, and parking areas as needed for all tenants upon request. • Lot plans as previously established should be eliminated. Sites should be allocated only the actual ground space (footprint) they occupy. • Vegetation clearing should be limited to defensible space within: (a) the communication sites; (b) fuel breaks around the perimeter of the

⁷ Towers greater than 200 feet in height require lights and guy wires, which could increase impact to bats and migratory birds.

	<p>sites; and (c) areas that pose a hazard to facilities and operational efficiency.</p> <ul style="list-style-type: none"> • All uses should be designed, operated, and maintained to not physically or electronically interfere with the senior uses. Senior uses⁸ generally take precedence over new uses. High power uses should be physically separated from low power uses by one mile or more. The responsibility for correcting interference problems lies with the holder of the communications site authorization for the facility, the user causing the interference, and the affected parties. • New and replacement towers should be self-supporting and should incorporate design features to minimize bat and bird impacts. • All new and replacement microwave radome covers should be dark grey, or as specified by the forest representative. • Visual resource objectives should be maintained by using design standards that make towers unobtrusive and by using nonreflective surface materials and colors which blend in with the surroundings. • New towers and tower additions should not be authorized if they adversely affect the fire tower lookouts' lines-of-sight or present radio frequency radiation hazards to Forest Service employees or the general public⁹.
Guide-Lands-5	<p>Energy sources should be managed according to the guidelines below:</p> <ul style="list-style-type: none"> • New energy proposals should be located within existing corridors including the Westwide Energy Corridor unless valid concerns about the reliability and integrity of the state's electrical grid indicate otherwise. • Towers for 69 kV lines and above, should be self-weathering with nonreflective lines, and where geomorphology allows, located in areas that blend in with the terrain or background. • Low growing plant communities that do not interfere with overhead lines, should be maintained within power line corridors. • Less than 69kV power lines should be placed underground where physically and economically feasible. • Overhead utilities should have approved corridor management plans or operating plans in place prior to all vegetation treatments • Solar and wind power facilities should be co-located within compatible corridors or located in areas with the least visual impacts to maintain natural appearing vistas.

⁸ Senior communication uses predate later communication applications. The most senior uses form the basis for the communications site designation.

⁹ For Federal Communications Commission purposes, this applies to human exposure to radio frequency fields when the general public is exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

	<ul style="list-style-type: none"> • When locating new power line corridors, areas in proximity to existing power line corridors or substations should be considered first. • Utility companies and wind power facilities should incorporate design features to minimize bat and avian collisions. • Current USFWS and AZGFD guidelines for wind and solar energy development should be considered for avoiding or minimizing impacts to wildlife. • Wildlife movement corridors should be considered when energy sources and transmission lines are located.
Guide-Lands-6	<p>Recreation residences should be managed according to the guidelines below:</p> <ul style="list-style-type: none"> • Recreation residences, decks, outbuildings, and other structures should be colored and designed to blend in with the natural landscape. All improvements should be preapproved by the Forest Service representative. • Recreation residences should be maintained in good condition to prevent vandalism and wildlife access. • Native plants should be used for landscaping. Type of species and placement should be consistent with maintaining a low fire risk. Nonnative invasive species should not be introduced; infestations should be removed where they exist.

Scenic Values

Guidelines for scenic values provide guidance for trending toward or achieving [DC-Ecosystem Resilience-1](#), [DC-Watershed-1](#), [DC-Veg-3](#), [DC-Veg-6 to 10](#), [DC-Wildlife-1](#), and [DC-Scenic-1](#) in chapter 2 of this document.

Scenic Values (See also Wildland Fire Guidelines 7, 8 and Minerals Materials Guideline 2.)	
Guide-Scenic-1	Scenic integrity objectives (see map 4 in appendix A) should be met or exceeded.
Guide-Scenic-2	<p>All improvements (including permanent structures), vegetation manipulation, and ground-disturbing activities and/or construction should be compatible with the scenic integrity objective (SIO) for the area and should be designed to complement the character of the surrounding natural landscape.</p> <ul style="list-style-type: none"> • Methods to disguise or minimize visual effects of constructed features by use of colors and materials that blend with the existing landscape should be considered. • Vegetation that screens views of structures should be protected or enhanced.

Guide-Scenic-3	For projects to maintain or improve forest health or for fuels treatments, the scenic integrity objectives (SIOs) may be temporarily reduced one SIO level during critical project or management activities. Written documentation in the project-level decision will elaborate on the timeline for completion and final expectation for appearance.
Guide-Scenic-4	Along visually sensitive roads (concern level 1 and 2) within high scenic integrity objective areas (see map 4 in appendix A) or next to recreation sites, branches and tree tops from management activity (slash) should be piled and burned or removed from the visible area up to 50 feet from the edge of the road.
Guide-Scenic-5	When management activities require cutting trees in piñon-juniper vegetation within the viewshed of concern level 1 roads, cut trees should be treated so that pieces lie no higher than 18 inches above the ground.
Guide-Scenic-6	Log landings should be out of sight of concern level 1 roads and developed recreation areas, except where steep slopes, archaeological sites, sensitive soils, Southwestern Region sensitive species habitat, lack of road access, or other similar factors prevent it.
Guide-Scenic-7	Within the viewshed of concern level 1 and 2 roads, timber markings should be located so that they are not visible from the road.
Guide-Scenic-8	When located within the viewshed of concern level 1 roads or within developed recreation sites, log landings and skidding areas should be reclaimed and slash treatments completed as quickly as possible after timber harvest has been completed in each payment unit.
Guide-Scenic-9	Flagging visible from concern level 1 roads and trails should be removed within one year after project completion to avoid impacting the viewshed.

Minerals and Minerals Material

Standards and guidelines related to minerals¹⁰ and minerals material¹¹ management provide guidance for trending toward or achieving [DC-Minerals-1](#) in chapter 2 of this document.

All Minerals (See also Wildlife Guidelines 6 and 9.)	
Std-All Minerals-1	Surface disturbance shall be limited to the minimum necessary for the extraction of minerals; however, land management decisions must not preclude the ability of private mineral owners to make reasonable use of the surface, as defined by deed and public law.

¹⁰ Minerals management on the Prescott NF primarily includes locatable minerals which are defined as hard rock minerals and are mined and processed for the recovery of metals. Locatable minerals may also include certain nonmetallic minerals and uncommon varieties of mineral materials, such as valuable and distinctive deposits of limestone or silica. Management of this type of mining falls under the authorities related to the 1872 Mining Law.

¹¹ Minerals material includes common variety material such as rock or gravel. Their management does not fall under the 1872 Mining Law and royalties for removal are paid to the government.

Locatable Minerals (See also Watershed Guidelines 6 and 7; Heritage Guidelines 1 and 2.)	
Std-Locatable Minerals-1	Heritage sites, administrative sites, and recreation sites that have an investment in facilities shall be requested for withdrawal from mineral entry and location.
Std-Locatable Minerals-2	Closed roads or routes not on the motor vehicle use map shall not be used for mining activity without written authorization.
Std-Locatable Minerals-3	Approval of mining activities shall include the use of reclamation bonds to protect and restore surface resources.
Guide-Locatable Minerals-1	<p>Provisions should be provided for recreational gold panning and dry mining activities that are allowed on the Prescott NF. These could include but would not be limited to:</p> <ul style="list-style-type: none"> • Only operating one area at a time and refilling holes and restoring areas of operation as nearly as possible to their premining appearance • Minimizing disturbance to riparian vegetation • Avoiding disturbance to upland vegetation • Guidance found in 36 CFR Part 228
Guide-Locatable Minerals-2	<p>Given that the Forest Service function is the management and protection of surface resources in a manner compatible with reasonable and logical mining operations, the following should be included in plans of operations for locatable minerals:</p> <ul style="list-style-type: none"> • Structures and support facilities for mining activity should be located outside riparian areas. Where no alternative to locating facilities in riparian areas exists, site-specific design features should be developed to minimize impacts. • Mine waste that has the potential to generate hazardous material should be located outside of riparian areas. If there is no reasonable alternative, design features should be applied to minimize impacts. • Mitigation measures should be used for Southwestern Region sensitive species to minimize impacts to populations due to mineral exploration or extraction activity. • Watershed protection and mitigations should be incorporated to avoid degradation of aquatic systems, including water quality, during mineral extraction. • Closing and reclaiming abandoned mine lands should be given high priority.

Minerals Materials (See also Vegetation Guideline 6.)	
Std-Minerals Materials-1	Restoration plans shall be prepared before development and use of new mineral material sources. Existing pits that have not been utilized as a source for mineral materials for 2 years shall require a reclamation plan and bonding before approval is granted to new applicants.
Std-Minerals Materials-2	Mineral activity shall not be permitted in designated wilderness and other withdrawn areas.
Guide-Minerals Materials-1	Adverse effects to aquatic and other riparian dependent resources from mineral material operations should be avoided.
Guide-Minerals Materials-2	Visual impact assessments should accompany new mineral material pit proposals. Pit proposals should meet scenic integrity objectives for the area of activity.
Guide-Minerals Materials-3	Mineral material sites open for public use versus those only available for Forest Service use should be determined and the information shared with the public.
Guide-Minerals Materials-4	Mineral material activities should not be permitted in designated or recommended special areas (e.g., wilderness, wild/scenic rivers).
Guide-Minerals Materials-5	Occupied Southwestern Region sensitive species habitat should be avoided during development of new mineral material extraction sites. Heavy equipment use and material removal should not take place in occupied Southwestern Region sensitive species habitat within current or new permitted sandstone or dolomitic limestone quarries.

Heritage Values

Standards and guidelines related to management of heritage values provide guidance for trending toward or achieving [DC-Heritage-1 to 2](#), and [DC-Minerals-1](#) in chapter 2 of this document. There are few guidelines for heritage because most direction exists as law and Forest Service policy.

Heritage Values (See also Locatable Minerals Standard 1.)	
Guide-Her-1	Heritage sites on the deferred maintenance list should be protected from impacts due to erosion or natural weathering as well as potential human activity.
Guide-Her-2	Development, access, signage, and interpretation should be minimized for sites eligible for and listed on the National Register of Historic Places to better provide protection.

Range

Standards and guidelines related to range management provide guidance for trending toward or achieving [DC-Watershed-1](#), [DC-Veg-1](#), [DC-Veg-3](#), and [DC-Veg-5](#) in chapter 2 of this document.

Range (See also Watersheds Guidelines 4, 5, 9, and 10; Soils Guideline 1; and Vegetation Standard 2.)	
Std-Range-1	Water troughs shall incorporate escape devices to prevent animal entrapments.
Std-Range-2	Year-long livestock grazing in riparian areas (streams, springs, and seeps) shall be avoided to prevent adverse impacts to water quality and riparian habitat in those areas.
Guide-Range-1	The placement of salt, minerals, and/or other supplements for the purposes of livestock management should be located further than one-quarter mile from riparian areas or seasonally present water.
Guide-Range-2	For structural improvements: <ul style="list-style-type: none"> • Implement design features that incorporate wildlife needs and reduce barriers to movement and entrapment hazards. • Consider wildlife needs in fence placement and design to reduce barriers and hazards to movement and minimize chances of entrapment. • Remove fencing when it is no longer needed.
Guide-Range-3	After occurrence of wildland fire or mechanical activity that removes most vegetation, a time period for recovery, establishment, and regrowth of vegetation should be determined and applied to meet site-specific objectives.
Guide-Range-4	Livestock salting should be located away from known locations of Southwestern Region sensitive plant species so that plants are not adversely affected by associated trampling.
Guide-Range-5	Livestock use of woody riparian species (e.g., cottonwood, willow, ash, alder) should provide for maintenance of those species and allow regeneration of new individuals leading to diverse age classes of woody riparian species where potential for native woody vegetation exists.
Guide-Range-6	Grazing intensity, frequency, occurrence, and period should provide for growth and reproduction of desired plant species while maintaining or enhancing habitat for wildlife.

Forest Products

Forest products sold on the Prescott NF include sawtimber, pulpwood, and firewood. The harvest of sawtimber and pulpwood is solely a byproduct of thinning forested areas where the primary

purpose is to improve forest health and wildlife habitat or to reduce hazardous fuels in the WUI. The demand for other wood products has been driven by local and regional needs for firewood.

Restoration work in ponderosa pine and piñon-juniper PNVTs is focused on uneven-aged forest management using two primary silvicultural prescriptions: free thinning all sizes to a target basal area and group selection cuts with matrix thinning to a target basal area. On occasion, even-aged regeneration methods might be included in site-specific project design, but only after a determination that these methods are the best approach for achieving desired conditions (see [DC-Veg-2](#) and [DC-Veg-17 to 20](#)).

The standards listed below are required by NFMA for those infrequent occasions when even-aged regeneration methods will be employed on lands classified as suitable for timber production.

Forest Products (See also Vegetation Guidelines 1, 2, 3, and 4; Wildland Fire Guidelines 5 and 8; and Scenic Values Guidelines 1 to 9.)	
Std-FP-1	<p>Regulated timber harvest activities shall occur only on those lands classified as suitable for timber production.</p> <p>Lands deemed suitable for timber production shall be on a regulated timber harvest schedule.</p> <p>Intermediate treatments, such as precommercial thinning between harvest intervals, shall be used to maintain tree vigor, provide growing space for regeneration, and reduce hazardous fuels.</p>
Std-FP-2	<p>If individual harvest openings created by even-aged silvicultural practices are proposed that would exceed 40 acres, then NFMA requirements regarding public notification and approval shall be followed.</p> <p>These requirements do not apply to the size of areas harvested because of catastrophes such as, but not limited to: fire, insect and disease attacks, or windstorms.</p>
Std-FP-3	<p>Regulated timber harvest activities shall only be used when there is reasonable assurance of restocking within 5 years after final regeneration harvest.</p> <p>Restocking level is prescribed in a site-specific silviculture prescription for a project treatment unit and is determined to be adequate depending on the objectives and desired conditions for the plan area.</p> <p>In some instances, such as when lands are harvested to create openings for fuel breaks and vistas or to prevent encroaching trees, it is adequate not to restock.</p>

Std-FP-4	<p>Even-aged stands shall generally have reached or surpassed culmination of mean annual increment (95 percent of CMAI as measured by cubic volume) prior to regeneration harvest, unless the following conditions have been identified during project development:</p> <ul style="list-style-type: none"> • When such harvesting would assist in reducing fire risk within the wildland-urban interface. • When harvesting of stands will trend landscapes toward vegetation desired conditions.
Guide-FP-1	Harvesting systems should be selected based on their ability to meet desired conditions and not on their ability to provide the greatest dollar return.
Guide-FP-2	Ponderosa pine site treatment timing and residual green slash accumulations should be managed to reduce opportunities for Ips beetle populations to increase.

Chapter 5. Management Area Direction



Riparian vegetation along the upper Verde River

Introduction

The 1987 “Prescott National Forest Land and Resource Management Plan” included specific direction on how to manage different land areas based on ecological characteristics. In this revised plan, we have addressed ecological variation using other methods (see chapters 1 and 2). Management area boundaries were selected based on human geographic boundaries, so that guidance in response to social or economic issues could be better identified to meet each community’s needs. As plan revision steps progressed, we asked ourselves which aspects of the plan needed to be addressed differently based on geographic location. The response was that recreation needs and desires were likely to be different for various parts of the Prescott NF. In addition, the Verde Valley area had specific desires relative to maintaining and enhancing open space.

The Prescott NF was divided into human geographic areas based on descriptions of communities located near and within the Prescott NF (Komar and Schultz, 2007). Using methods developed by James Kent and Associates, geographic areas were mapped indicating where people from various communities feel strongly about conditions and events. Communities were then invited to develop community visions for the Prescott NF and other surrounding lands.

In a more recent effort to develop a recreation strategy for the Prescott NF, similar boundaries were used to divide the forest and surrounding area into three zones. In this plan, those zone boundaries were adjusted slightly and are called geographic areas. Management areas are subdivisions of geographic areas. The relationship between geographic areas and management areas in this plan is shown in table 4 and figure 3.

Table 4. Geographic and management areas on the Prescott NF

Agua Fria/Crown King Geographic Area	Prescott/Chino/Drake Geographic Area	Verde Valley Geographic Area
<p>Agua Fria Management Area</p> <p>Crown King Management Area</p>	<p>Upper Verde Management Area</p> <p>Williamson Valley North Management Area</p> <p>Williamson Valley South Management Area</p> <p>Prescott Basin Management Area</p>	<p>Verde Valley Management Area</p>

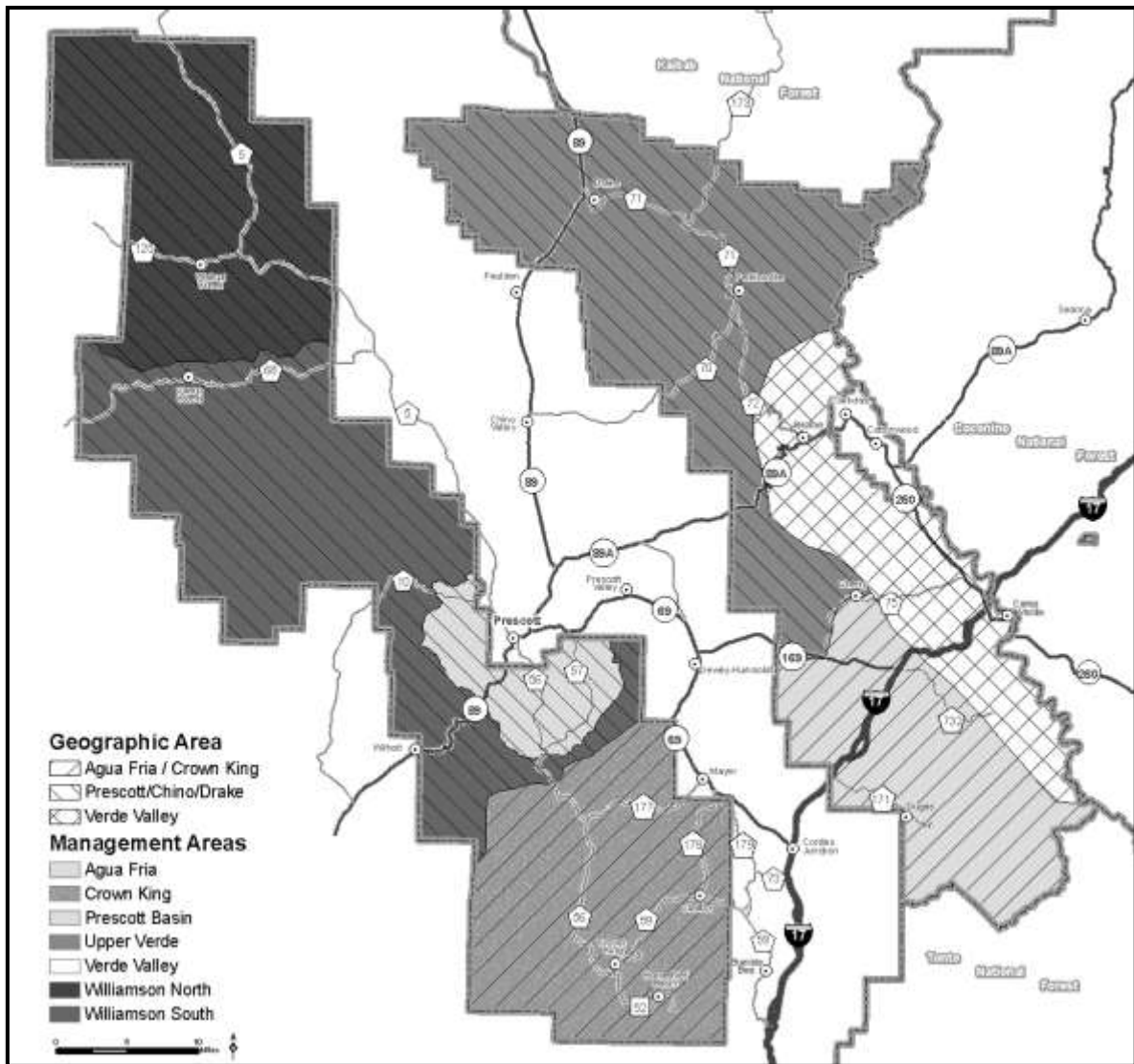


Figure 3. Map of geographic areas and management areas on the Prescott NF

Community vision statements related to recreation or open space are included for each of the three geographic areas shown in figure 3. They were developed during community vision workshops held in 2007 and 2008 (see appendix C for the full community vision statements). Only statements related to recreation or open space were included. Forestwide desired conditions (chapter 2) address community vision statements related to other topics. While the source of each community vision statement is indicated in parentheses, the statements apply to the whole geographic area and may include desired community characteristics that overlap both the Prescott NF and other land ownership.

Desired conditions that apply to all of the Prescott NF have been included in chapter 2 of this plan. The desired conditions included for each management area are those that are specific to that land area. Forestwide desired conditions apply to these areas, as well all other areas on the Prescott NF. Management area desired conditions refine the forestwide descriptions. Objectives

developed in response to management area desired conditions have been included in chapter 3, “Objectives.”

Forestwide standards and guidelines are found in chapter 4 of this plan. The management area standards and guidelines described for each management area in this chapter provide more specific guidance for each individual management area. If there appears to be a conflict between forestwide standards and guidelines and those found in management areas, the most restrictive apply.

The management area plan decisions below are the numbered statements displayed in boxes. The information outside of these boxes are not plan decisions but are provided for background. In addition, standards are displayed in **bold** text (same as in chapter 4).

Agua Fria/Crown King Geographic Area

Historic Context

When the Spanish arrived in Arizona, the Agua Fria River Basin was occupied primarily by the Yavapai people, although Apache people were also present. With the discovery of precious metals in the Bradshaw Mountains and the Black Hills in the 1860s, “gold fever” hastened the migration of industrialism and capitalism to the area. Numerous mining camps and towns sprang up. In the 1920s, a quarter million sheep seasonally moved through the Agua Fria watershed from the Salt River Valley to the high plateau, with many stopping at the Old Cordes Ranch for shearing. Bales of wool eventually were moved by wagon from Old Cordes to the Cleator railroad siding and then to markets.

The largest mine in the Bradshaw Mountains, and the one that gave its name to the local settlement, was the Crowned King Mine. The first claim was in 1875. Years later the name was shortened to its current form, Crown King. Miners transformed the area with picks, machinery, explosives, smoke stacks, industrial chemicals, logging, and the construction of roads and railroads. The Crown King mill pounded away at ore from the mine through 1890, at one time making 3 tons of high grade concentrates per day. Surrounding forests were cut down to feed the boilers that drove the mill. In the 1930s, the city of Phoenix leased almost 2,000 acres of land in Horsethief Basin from the Forest Service. Through the Works Progress Administration and Civilian Conservation Corps programs, a dam was built to create a lake. Cabins, tennis courts, and playgrounds were constructed and used by families escaping the summer heat. After the land reverted to the national forest, the cabins became summer home dwellings as part of the recreation residence program.

Characteristics of the Agua Fria/Crown King Geographic Area

Approximate acres: 373,000, of which 97 percent is National Forest System land

Miles of trail limited to nonmotorized uses: 101

Miles of motorized trails or multiuse trails: 126

Recreation Opportunity Spectrum setting:

Semiprimitive Nonmotorized	102,465 acres
Semiprimitive Motorized	176,515 acres

Roaded Natural	82,358 acres
Roaded Modified	12,612 acres
Rural	269 acres

Scenic Integrity:

Very High	44,656 acres
High	137,151 acres
Moderate	173,491 acres
Low	6,512 acres

Special Areas:

Castle Creek Wilderness
 Cedar Bench Wilderness (west portion)
 Pine Mountain Wilderness
 Grapevine Botanical Area

Recommended Wilderness Areas:

Castle Creek Contiguous Recommended Wilderness Area
 Pine Mountain Contiguous B Recommended Wilderness Area

Inventoried Roadless Areas

Arnold Mesa Inventoried Roadless Area
 Blind Indian Creek Inventoried Roadless Area
 Grief Hill Inventoried Roadless Area (west portion)
 Pine Mountain Wilderness Contiguous Inventoried Roadless Area

Management Areas:

Agua Fria Management Area
 Crown King Management Area

Community Visions for the Agua Fria/Crown King Geographic Area

Recreational opportunities are common. Trails and signage are in good condition. Evidence of trash accumulation and illegal dumping is rarely seen. Use of trails by motorized vehicles takes place on designated roads, trails, or use areas (from Agua Fria community vision).

As new, sustainable, efficient, nonpolluting conservation practices are identified, they are incorporated into management activities (from Agua Fria community vision).

There is equal access to services, amenities, and recreational opportunities. Developed public facilities—such as campsites and trails—are adequate to accommodate visitors (from Crown King community vision).

Forest Service roads provide safe access to local citizens and visitors (from Crown King community vision).

Interactions and partnerships between local communities and municipal, State, and Federal agencies help to move toward achieving desired conditions (from Cherry community vision).

The rural nature and natural beauty is valued and retained (from Black Canyon City community vision).

Agua Fria Management Area

The Agua Fria Management Area generally includes lower elevation desert grasslands, piñon-juniper woodlands, and chaparral. This area includes the communities of Cordes Junction, Dugas, and Cherry. Access is provided by State Highways 69 and 169, Interstate 17, and single lane roads. Permitted livestock grazing is common and agriculture remains a way of life.

Pine Mountain Wilderness is located within this management area and crosses over onto the Tonto National Forest. Although it is co-located on two forests, the Prescott and Tonto, the management direction is guided by the Prescott NF's land management plan. Information in this land management plan is a substitute for individual wilderness management plans for each designated wilderness on the Prescott NF.

Most recreation opportunities are dispersed. Horseback riding, OHV use, hunting, and hiking are common. While OHV policy restricts such use to designated roads, trails, and areas, the open areas prove to be attractive to riders who want to leave trails and roads even though it is unlawful.

Desired Conditions for the Agua Fria Management Area

DC-AF MA-1	<p>Motorized use is found on designated trails and roads. Developments and interactions between visitors are few. Motorized and nonmotorized opportunities are often separated but may share trailhead access. Visitors and citizens make use of trails that provide the opportunity for their desired experiences and “unofficial” trails are not evident. The nonmotorized Black Canyon Trail stretches from BLM land ownership through the Prescott NF connecting Black Canyon City to Camp Verde.</p> <p>Hunting is common. OHV use and motorized access to dispersed camping remains within the legal distance from roads, especially near Yellow Jacket Creek north of the Agua Fria National Monument. Small, dispersed campsites are scattered along designated roads and outside of riparian corridors. Their use only minimally affects resources, and the riparian corridors remain in functional condition.</p> <p>Interactions between grazing permittees and recreationists are generally positive or benign. Signing and other tools are used to communicate the need to respect gate closures for livestock and natural resources.</p>
---------------	--

Objectives for the Agua Fria Management Area

All objectives, including those related to management area desired conditions are found in chapter 3, “Objectives.”

Guidelines for the Agua Fria Management Area

Guide- AF MA-1	Management actions should reduce recreation impacts, such as soil compaction or loss of vegetation, in the riparian corridor along Yellow Jacket Creek.
----------------------	---

Guide- AF MA-2	Management actions should retain the scenic integrity objectives associated with the Grief Hill Inventoried Roadless Area.
----------------------	--

Crown King Management Area

The Bradshaw Mountains are the major feature of the Crown King Management Area. Elevation ranges from 3,000 to over 7,500 feet. Vegetation on the eastern side of the management area includes desert communities. A major attraction for visitors is the cooler temperatures and ponderosa pine found at higher elevations. This area includes the communities of Cleater, Old Cordes, and Crown King. Access via Senator Highway, Forest Road 177, or County Road 59 can be primitive, with single lane roads threading their way through switchbacks to Crown King and the Horsethief Basin Recreation Area. The major recreation points include trails such as the off-highway vehicle (OHV) connection to Lake Pleasant Recreation Area, the native surface roadways traveled by both vehicles and OHVs, and the hiking and horseback riding in Castle Creek Wilderness. Developed camping opportunities are found in Horsethief Basin, and dispersed camping takes place where there is enough accessible level area to camp. The 800-acre Grapevine Botanical Area contains 12 perennial springs which support a variety of plants and wildlife, including a distinctive alder-walnut vegetative community, and it provides a popular day-use destination for hikers.

Desired Conditions for the Crown King Management Area

DC-CK MA-1	<p>Recreation information is available to visitors to Crown King; OHV visitors remain on legal, designated trails and routes that are well signed and well maintained. Areas are generally trash free.</p> <p>There are several dispersed campsites near the community of Crown King that show minimal compaction and have vegetative cover at a density similar to that found in the surrounding area. Developed facilities in Horsethief Basin are well maintained and respond to the demand for use. Hazlett Hollow Campground allows OHV access to developed campsites.</p> <p>Recreation use provides a sustainable contribution to the local economy during summers at Crown King.</p> <p>Recreational target shooting is not common in the Crown King area.</p> <p>Palace Station historic stage stop retains its historic value, and facilities there are well maintained.</p>
---------------	--

DC-CK MA-2	<p>West of Forest Road 52 (Senator Highway) and Forest Road 362, the recreation setting is largely nonmotorized with occasional OHV trails crossing from east to west. The setting is one of moderate isolation from sights and sounds of people, and the environment is predominantly unmodified.</p> <p>To the east of Forest Road 52, the setting is largely motorized, with the exception of Castle Creek Wilderness. There is a high degree of interaction with the natural environment throughout the area. Visitor use is high nearer Crown King and Horsethief Basin, especially on weekends, and interaction between visitors is common in the summer time.</p> <p>Castle Creek Wilderness provides the opportunity to experience nonmotorized and nonmechanized activity within a predominantly unmodified environment. The concentration of visitors is low, and the terrain and limited water availability make activities challenging.</p> <p>Forest Road 711, provides access from the south to Crown King, and it remains a 4-wheel drive, very high clearance vehicle route that provides extreme challenge.</p>
DC-CK MA-3	<p>The area in and around the Grapevine Botanical Area provides a nonmotorized setting for recreation. Within the Grapevine Botanical Area, Grapevine Creek and riparian areas are healthy, the watershed is properly functioning, and sensitive plant and animal species are protected. The unique botanical characteristics that make the area valuable for scientific research are protected and maintained (see map 5 in appendix A for location).</p>

Objectives for the Crown King Management Area

All objectives, including those related to management area desired conditions are found in chapter 3, “Objectives.”

Standards for the Crown King Management Area

Std-CK MA-1	<p>Within the Grapevine Botanical Area:</p> <ul style="list-style-type: none"> • No livestock grazing, trailing, or driving shall take place within the botanical area except that livestock may trail through the Bootlegger-Grapevine Unit on established roads to Forest Road 87A and then Trail 304. This movement shall be controlled and not be accomplished by drifting. • Motorized or mountain bike use shall not take place on Trails 4, 304, and 9432 below the rim of Big Bug Mesa. • Recreation use shall be limited to day use.
----------------	--

Guidelines for the Crown King Management Area

Guide- CK MA-1	Management actions should reduce recreation impacts such as soil compaction or loss of vegetation and provide a sanitary, primitive camping opportunity in the vicinity of Horsethief Basin and the Crown King community.
----------------------	---

Prescott/Chino/Drake Geographic Area

Historic Context

From 1853 to 1854, Lieutenant Amiel W. Whipple led a military expedition into northern Arizona and established the first access routes to nearby gold fields. After the Walker party found gold near Granite Creek and near the Hassayampa River, Arizona was organized as a separate territory and its first temporary capital was located at nearby Fort Whipple. The city of Prescott was designated the capital of the new territory of Arizona from 1865 to 1867 and again from 1877 to 1889. The early economy of the area centered on cattle ranching and mining. Prescott's first rodeo was held in 1888, and that annual event has continued to the present. The city places great emphasis on historic preservation, with over 600 buildings on the National Register of Historic Places.

Chino Valley, about 16 miles north of Prescott, is thought to have been named by Lieutenant Whipple after the curly grama grasses that were common and called "del china" by Mexicans. What is now Prescott Valley was originally called Lonesome Valley and was part of the Fain family ranch for years. In the 1960s, speculators from Phoenix bought land about 7 miles east of Prescott and incorporated under the name Prescott Valley. They sold lots to those in northern areas who were looking for warmer, sunny winters. The towns of Prescott Valley, Chino Valley, and Prescott together make up an area known locally as the "Tri-City" area with a combined population estimated at 88,000 in the 2006 census. Yavapai-Prescott tribal lands are located next to and partially within the borders of Prescott.

Characteristics of the Prescott/Chino/Drake Geographic Area

Approximate acreage is 896,000, of which 87 percent is National Forest System land.

Miles of trail limited to nonmotorized uses: 235

Miles of motorized or multiuse trails: 224

Recreation Opportunity Spectrum setting:

Semiprimitive Nonmotorized	171,395 acres
Semiprimitive Motorized	398,524 acres
Roaded Natural	254,093 acres
Roaded Modified	65,654 acres
Rural	3,869 acres
Urban	1,653 acres

Scenic Integrity:

Very High	54,074 acres
High	247,258 acres
Moderate	446,917 acres

Low	26,104 acres
Very Low	2,942 acres

Special Areas:

- Juniper Mesa Wilderness
- Apache Creek Wilderness
- Sycamore Canyon Wilderness
- Woodchute Wilderness (west portion)
- Granite Mountain Wilderness
- Upper Verde River, eligible for wild and scenic river designation

Recommended Wilderness Areas:

- Apache Creek Contiguous A Recommended Wilderness Area
- Juniper Mesa Contiguous A Recommended Wilderness Area
- Sycamore Canyon Contiguous A Recommended Wilderness Area
- Woodchute Contiguous Recommended Wilderness Area

Inventoried Roadless Areas:

- Ash Creek Inventoried Roadless Area
- Connell Mountains Inventoried Roadless Area
- Fritsche Inventoried Roadless Area
- Muldoon Inventoried Roadless Area
- Sheridan Mountain Inventoried Roadless Area

Management Areas:

- Upper Verde Management Area
- Williamson North Management Area
- Williamson South Management Area
- Prescott Basin Management Area

Community Visions for the Prescott/Chino/Drake Geographic Area

Recreation access for all ages and physical conditions is available. Roads, trails, and signage, as well as water source access for horses is available and well maintained (from Wilhoit community vision).

There is a thoughtful balance between available access and protection of forest resources and aesthetics. A comprehensive system of meaningful and sustainable trails, trailheads, and designated campsites is present. Conflicts between types of uses are rare, especially those that take place on nonmotorized and multiuse trails. All user groups, including hikers, equestrians, bicyclists, motorized vehicle operators, and hunters enjoy a reasonable amount of access (from Prescott community vision).

Many portions of the geographic area retain open areas and a feeling of “space.” Areas for activities like horseback riding, hiking, and taking the dogs for walks is found throughout the geographic area and provide the feeling of openness that people enjoy (from Paulden community vision).

Upper Verde Management Area

The focus of this management area is the headwaters and upper portion of the Verde River. The Verde is a perennial river with continuous flow, and the upper portion is eligible for designation

as a wild and scenic river. There has been great public interest in such designation, as it would complement the existing wild and scenic designated section south of Camp Verde.

The management area also includes Sycamore Canyon Wilderness which is located within and is managed by three national forests—the Coconino, Kaibab, and Prescott. Management direction for this wilderness is found within the Coconino NF’s land management plan.

On the southern end, the management area extends to just outside the community of Cherry, on the western slopes of the Black Hills. Access to the area is via State Highways 89 and 89A and the Perkinsville Road.

Desired Conditions for the Upper Verde Management Area

DC-UV MA-1	The upper Verde River retains its outstandingly remarkable values, while recreation facilities are found in several locations along the river. These facilities provide for day use or overnight camping, make use of existing roads as access, and minimize resource impacts, including heritage resources.
DC-UV MA-2	Recreation sites are found in areas where: <ul style="list-style-type: none"> • The landscape is generally natural with modifications moderately evident. • Opportunities for challenge and risk are generally moderate to low. • Opportunities for both motorized and nonmotorized activities are present.
DC-UV MA-3	<p>Motorized use is consistent with existing regulations. Control systems, such as law enforcement activity or citizen interactions, ensure resource impacts are minimized as population and visitor use increase.</p> <p>The opportunity for a nonmotorized experience is found in the area south of the river between Forest Roads 638 and 9110H and continues along the river corridor to Bear Siding. East of Perkinsville Road, opportunities for nonmotorized experiences continue along the river and connect with Sycamore Canyon Wilderness.</p> <p>The opportunity for a variety of experiences exists, with motorized uses limited to designated roads and trails and a less developed setting found between those routes.</p>
DC-UV MA-4	<p>There are opportunities to experience isolation from manmade sights, sounds, and management controls in Sycamore Canyon Wilderness and Woodchute Wilderness.</p> <p>North of the upper Verde River, existing NFS roads provide access for hunting and driving for pleasure.</p> <p>Permitted firewood cutting and dispersed camping are common.</p>

Objectives for the Upper Verde Management Area

All objectives, including those related to management area desired conditions are found in chapter 3, “Objectives.”

Guidelines for the Upper Verde Management Area

Guide-UV MA-1	Recreation facilities developed in the vicinity of the upper Verde River should be placed near existing roadways to retain opportunities for isolation along the river where designated roads and motorized trails are rare.
Guide-UV MA-2	Management tools (e.g., increased signage, visitor contacts, or education efforts) should be used to highlight appropriate trail use near the upper Verde River.
Guide-UV MA-3	Interpretive programs and enforcement activity should encourage appropriate behaviors and provide recreationists with information about the Verde River ecosystem.

Williamson Valley North Management Area

This management area includes checkerboard ownership in the northern half of the area, Walnut Creek that flows east and west through the area, and two wilderness areas near the western side of the area. It can be accessed by Williamson Valley Road (County Road 5) and Forest Road 664. Most recreation activity is related to trail use or other dispersed activity. There are no developed campgrounds in this area.

Desired Conditions for the Williamson Valley North Management Area

DC-WVN MA-1	<p>The trail system is formally designated, well maintained, and signed. The area includes a mixture of both motorized and nonmotorized recreation opportunities; however, nonmotorized opportunities are more common. Trails with various intended uses are located to minimize conflict.</p> <p>Hiking trails are designed to take advantage of spring locations. Trails and trailheads located along the interface between Forest Service and other ownership efficiently and effectively provide access to the Prescott NF, while avoiding resource damage.</p>
DC-WVN MA-2	<p>Opportunities for primitive experiences with few interactions between visitors and isolation from manmade sights and sounds are found within Apache Creek Wilderness and Juniper Mesa Wilderness and the immediate area surrounding each.</p> <p>Conflicts between recreation uses are infrequent.</p> <p>Opportunities are available to view wildlife, and negative effects to wildlife and water resources from recreation use are identified and mitigated.</p>

Objectives for the Williamson Valley North Management Area

All objectives, including those related to management area desired conditions are found in chapter 3, “Objectives.”

Guidelines for the Williamson Valley North Management Area

Guide-WVN MA-1	As trail facilities are developed at the interface between national forest and other ownership in the Williamson Valley North Management Area, consideration should be given to providing public access on a designated system of roads and trails.
Guide-WVN MA-2	Management tools (e.g., timing restrictions, increased signage, visitor contacts, or education efforts) should be used to minimize recreation impacts to wildlife species.

Williamson Valley South Management Area

This area extends from the vicinity of Camp Wood Road south toward the city of Prescott and surrounds the Prescott Basin Management Area. It includes: Granite Mountain Wilderness, Alto Pit Off-Road Motorized Use Area, and 317 miles of trails where motorized use is allowed. It is accessed primarily via Camp Wood Road (County Road 68) in the northern part of the area and County Roads 66 and 121 on the east and south.

Desired Conditions for the Williamson Valley South Management Area

DC-WVS MA-1	<p>The predominant settings in this management area include:</p> <ul style="list-style-type: none"> • A mixture of opportunities to affiliate with other groups or to be isolated from people. • A generally natural landscape where the few facilities blend in with the surroundings. • A concentration of visitors that varies from low in the Sheridan Mountains to high in the area that surrounds Prescott Basin.
DC-WVS MA-2	<p>Opportunities for both motorized and nonmotorized activities are present, with motorized activities being more common.</p> <p>Conflicts between recreation uses are minimized.</p> <p>Facilities that support trail systems, such as trailheads or camping, are found in the vicinity of Camp Wood Road (County Road 68). Visitors and citizens use designated trails or areas that provide opportunities for their desired experiences and “unofficial” trails are not evident.</p> <p>Motorized access for dispersed camping or firewood gathering occurs near designated roads.</p>

DC- WVS MA-3	<p>Impacts to ecology and water resources are uncommon. The Hassayampa River and the area along Copper Basin Wash support healthy, properly functioning riparian areas, are trash free, and show few natural resource impacts due to recreation use.</p> <p>Granite Mountain Wilderness provides quiet recreation in a location that is easy to access.</p>
--------------------	---

Objectives for the Williamson Valley South Management Area

All objectives, including those related to management area desired conditions are found in chapter 3, “Objectives.”

Standards for the Williamson Valley South Management Area

Std- WVS MA-1	<p>Within Granite Mountain Wilderness:</p> <ul style="list-style-type: none"> • New fixed anchor climbing routes shall not be created; however, existing fixed anchors may be maintained for rock climbing. • Power drills and other electro-mechanical or pneumatic devices shall not be used for maintaining fixed anchors.
---------------------	--

Guidelines for the Williamson Valley South Management Area

Guide- WVS MA-1	<p>Within Granite Mountain Wilderness:</p> <ul style="list-style-type: none"> • All dogs should be on a leash. • Camping should not take place within 200 feet of either side of Trail 261. • Campfires should not be used.
Guide- WVS MA-2	<p>Recreation facilities developed in the vicinity of the Camp Wood Road (County Road 68) should be placed near existing roadways to retain opportunities for isolation from people in areas where designated roads and motorized trails are rare.</p>

Prescott Basin Management Area

Recreation within the Prescott Basin is concentrated around the city of Prescott. Residents can often drive for less than 15 minutes and enjoy the natural environment. The Prescott Basin area was first identified in 1999 and incorporated by amendment into the 1987 plan in order to respond to needs to provide more controls on recreation use related to dispersed camping. These controls have been integrated with the direction found in this plan.

Desired Conditions for the Prescott Basin Management Area

DC-PB MA-1	<p>Interaction between recreation users is common.</p> <p>Conflicts between recreation uses are infrequent.</p> <p>There are multiple recreation opportunities, including developed campgrounds, designated dispersed camping, day use sites, an OHV off-road area, and multiple trails for both motorized and nonmotorized use.</p> <p>Existing facilities are well maintained.</p> <p>Parking is available for high-use periods, including holiday weekends.</p> <p>Recreational target shooting does not occur due to density of visitors and recreation facilities.</p> <p>Recreation use is moderate at sites that are not located near water. Occurrences of vandalism and graffiti are minimal, and if they occur, are obvious for only a short time.</p> <p>Impacts to ecology and water resources, such as soil compaction or loss of vegetation, are uncommon.</p> <p>Educational activities, such as campfire programs or naturalist tours, are provided within campgrounds or in other areas where people congregate.</p>
DC-PB MA-2	<p>Developed and designated dispersed recreation sites support both community based and Prescott NF based recreation opportunities.</p> <p>Designated dispersed sites provide an inviting, sanitary, more primitive place to camp. Expansion of individual sites and evidence of overuse is minimal. Resource impacts due to recreation use, such as soil compaction or lack of vegetation, are minimized.</p>
DC-PB MA-3	<p>There is a balance between motorized and nonmotorized recreation opportunities. Nonmotorized opportunities are expanded near existing urban populations by connecting existing small, nonmotorized parcels (see map 3 in appendix A).</p> <p>Both motorized and nonmotorized trail systems consist of interconnecting loops, as well as trails that connect communities or to other destinations. Visitors and citizens use designated trails or areas that provide opportunities for their desired experiences, and “unofficial” trails are not evident.</p>

Objectives for the Prescott Basin Management Area

All objectives, including those related to management area desired conditions are found in chapter 3, “Objectives.”

Guidelines for the Prescott Basin Management Area

Guide-PB MA-1	Dispersed camping within the Prescott Basin Management Area should be limited to designated dispersed camping sites and should not exceed a total of 7 days within a 30-day consecutive period.
Guide-PB MA-2	Intensive recreation control systems, such as permits, temporary closures, or reservation systems, should be used for resource protection or to prevent recreation use conflicts.
Guide-PB MA-3	Interpretive programs should focus on minimizing user conflicts, encouraging appropriate behaviors, and providing recreation users with information about natural ecosystems and the wildland-urban interface.
Guide-PB MA-4	Recreational target shooting should be restricted in areas where it has the potential to create safety problems.

Verde Valley Geographic Area

Historic Context

Inhabited 5,000 years or more ago by hunter-gatherers, the Verde Valley has long been populated. Around 800 AD, an agricultural-based culture settled and made use of irrigation to grow crops. Starting in 1,500 AD, the area was used by nomadic Yavapai and the Apache people, who still call the area home. As settlers from Europe and the eastern part of the U.S. migrated to the West, conflicts erupted between them and the native people. Fort Verde, originally called Fort Lincoln, was established in January 1864 by a group of volunteers from New Mexico. Later the fort was used by U.S. Army regulars to mount offensive operations against the Yavapai and Apache. In 1875, acting on presidential executive order, about 1,500 Yavapai and Dilzhe'e Apache from the Rio Verde Indian Reserve were transferred to the Indian agency at San Carlos, 180 miles away. This led to the loss of many lives and the loss of treaty lands promised to the Yavapai-Apache. When the Yavapai and Apache were released, only about 200 made their way back to the Verde Valley. Currently, the Yavapai-Apache have purchased lands and are a cultural and economic contributor to the area.

Many communities in the area, including Cottonwood, Camp Verde, Beaver Creek, and Cornville, were formed to support agricultural activity. These communities are located near the Verde River or its tributaries, where fertile land, views, and green vegetation are still found. Mining has also been an important factor within the Verde Valley. The town of Jerome originated as a copper mining camp and was incorporated in 1876. Railroads were built to support the mine, including one to the smelter in Clarkdale. In 1882, the Atlantic & Pacific Railroad was completed connecting Jerome with Ash Fork to the north. A portion of this line is now called the Verde Canyon Railroad and is operated as a tourist attraction in Clarkdale. Jerome's population peaked in the 1920s at about 15,000, but dwindled as the demand for copper decreased after World War II. Its population is now about 450, and it is a thriving tourist and artist community, as well as a designated National Historic District (Yavapai County, 2006; Komar and Schultz, 2007; and Forest Service, 2005c).

Characteristics of the Verde Valley Geographic Area

Approximate acreage: 141,000 of which 82 percent is land under management by the Prescott NF

Miles of trails limited to nonmotorized uses: 58

Miles of motorized or multiuse trails: 58

Recreation Opportunity Spectrum setting:

Semiprimitive Nonmotorized	24,516 acres
Semiprimitive Motorized	54,202 acres
Roaded Natural	33,536 acres
Roaded Modified	21,212 acres
Rural	6,145 acres
Urban	1,249 acres

Scenic Integrity:

Very High	9,896 acres
High	57,654 acres
Moderate	47,128 acres
Low	757 acres
Very Low	17 acres

Special Areas:

- Cedar Bench Wilderness (east portion)
- Woodchute Wilderness (east portion)
- Verde River Wild and Scenic segments

Recommended Wilderness Areas:

- Cedar Bench Contiguous A Recommended Wilderness Area
- Cedar Bench contiguous B Recommended Wilderness Area

Inventoried Roadless Areas:

- Black Canyon Inventoried Roadless Area
- Grief Hill Inventoried Roadless Area (east portion)
- Hackberry Inventoried Roadless Area

Management Areas:

- Verde Valley Management Area

Community Visions for the Verde Valley Geographic Area

Wide open spaces are free of litter and illegal uses. Prescott NF lands provide panoramic views (from Verde Valley community vision).

Each community retains its own identity and character. Unincorporated residential neighborhoods, farms, and ranches are intermingled and all are buffered by Prescott NF lands that provide natural open spaces and big mountain views (from Verde Valley community vision).

A system of nonmotorized multiuse trails connects communities, allows access to public lands and encourages people to improve health and vitality by exploring the outdoors. Roads, designated trails, and selected areas are managed for responsible use of off-highway vehicles;

while other areas are set aside for protection or managed for nonmotorized uses (from Verde Valley community vision).

Recreationists—including anglers, birders, hunters, hikers, bicyclists, equestrians, gun enthusiasts, river runners, hang gliders, and off-highway vehicle drivers—respect and use the national forest in harmony with each other and the environment (from Verde Valley community vision).

Federal, State, and county agencies work cooperatively and effectively with neighboring municipalities, groups, and individuals to protect public lands and enforce the rules that govern them (from Verde Valley community vision).

Recreational shooting takes place in designated areas and educational programs encourage safe and wise use of firearms (from Jerome community vision).

Verde Valley Management Area

The Verde Valley Management Area includes the Prescott NF land area on the east side of the Black Hills and west of the Verde River. The communities of Camp Verde, Clarkdale, Cottonwood, and Jerome are located here.

Desired Conditions for the Verde Valley Management Area

DC-VV MA-1	The Black Hills continue to provide a scenic backdrop for the Verde Valley. Lands within the boundaries of the Prescott NF that enhance open space, scenic, watershed, or other natural resource values remain in national forest ownership or are obtained through land adjustment. The land exchange process is open to the public, and there are opportunities to provide feedback regarding the land exchange.
DC-VV MA-2	The viewshed associated with the State Highway 89A Scenic Byway retains its scenic qualities and natural character. Visitors encounter a landscape that appears natural within the context of native vegetation and landforms and generally unaltered by human activity.
DC-VV MA-3	<p>Recreation opportunities are abundant and varied. Multiple opportunities exist for motorized and nonmotorized trail use, picnicking, developed camping, hunting, and river-based activities along the Verde River. Visitors have opportunities to visit historic sites, view scenic vistas, birdwatch, and appreciate undeveloped, naturally occurring open space between the vibrant communities of Jerome, Clarkdale, Cottonwood, and Camp Verde.</p> <p>Local user groups are well informed about recreation opportunities and restrictions, providing helpful information to users and self-patrol of recreation activities.</p> <p>Evidence of overuse, such as soil compaction or lack of vegetation, is minimal at all recreation sites. Occurrences of vandalism and graffiti are minimized, and if they occur, are obvious for only a short time.</p>

	Local residents and visitors feel safe from the hazards of recreational target shooting activity that occurs within Prescott NF boundaries.
DC-VV MA-4	<p>Recreation use within the Verde Valley Management Area is concentrated primarily at areas along the Verde River corridor and on top of Mingus Mountain.</p> <p>There are multiple recreation sites along the Verde River, including developed campgrounds, designated dispersed camping, and day-use areas. Parcels of National Forest System land along the river provide a nonmotorized setting for visitors, and river access points meet public use needs. Educational efforts enhance visitor experiences by informing people about the history and ecology of the river and the area. Visitors find that recreation opportunities complement those provided by city, State, tribal, other agency, and private entities.</p> <p>Mingus Mountain contains multiple recreation sites, including developed campgrounds, designated dispersed camping, and day-use areas. Designated dispersed sites at Mingus Mountain provide an inviting, sanitary, and primitive place to camp as an alternative to developed campgrounds. Trails are well maintained and trailheads have space to safely handle parking demand. Information on recreation opportunities is available at obvious and convenient locations. Developed camping opportunities are fulfilling demand.</p>
DC-VV MA-5	Cedar Bench Wilderness and Woodchute Wilderness provide opportunities for remote experiences and quiet, secluded hunting.
DC-VV MA-6	Both motorized and nonmotorized trail systems consist of interconnecting loops, as well as trails that connect communities or other non-Prescott NF destinations. Motorized and nonmotorized opportunities are generally separated. Visitors and citizens make use of trails that provide opportunities for their desired experiences, and “unofficial” trails are not evident. Trailheads efficiently provide parking and access to trails where they are most critically needed. OHV trailheads provide a relatively dust-free environment that prevents erosion.

Objectives for the Verde Valley Management Area

All objectives, including those related to management area desired conditions are found in chapter 3, “Objectives.”

Guidelines for the Verde Valley Management Area

Guide- VV MA-1	Management actions should discourage unsafe and inappropriate winter recreation on Mingus Mountain.
----------------------	---

Guide- VV MA-2	Recreation control systems including, but not limited to, reservation systems, physical and spatial control structures, and designated dispersed sites should be used to reduce recreation impacts such as soil compaction or loss of vegetation along the crest of Mingus Mountain.
Guide- VV MA-3	Land acquisition and exchange opportunities should emphasize retaining or adding to Prescott NF lands in the Verde Valley and on the east side of the Black Hills between Cottonwood and Camp Verde.
Guide- VV MA-4	Management actions should retain the scenic integrity objectives associated with the Grief Hill Inventoried Roadless Area.
Guide- VV MA-5	Recreational target shooting should be restricted in areas where it has the potential to create safety problems.

Chapter 6. Monitoring and Evaluation



Grassland monitoring near Chino Valley

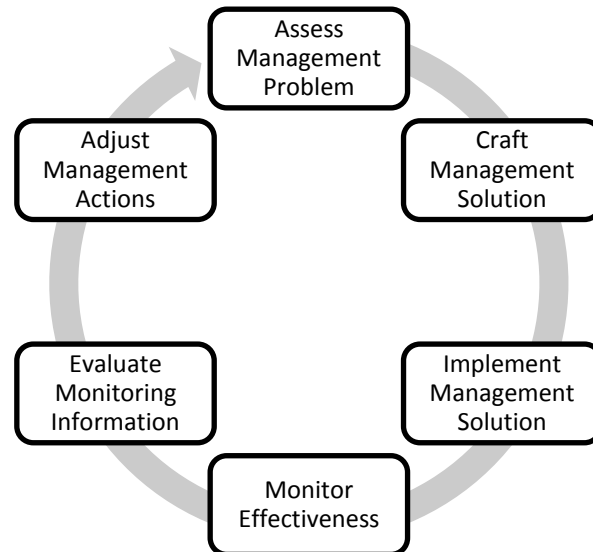
Introduction

Monitoring and evaluation are separate and sequential activities required by National Forest Management Act regulations to determine how well the plan is working. Monitoring involves collecting data by observation or measurement. Evaluation involves analyzing and interpreting monitoring data.

The general purpose of monitoring is to detect changes or trends in a resource. Detection of a change or trend may trigger a management action, or it may generate a new line of inquiry. Monitoring data is most useful when the same methods are used to collect data at the same locations over time. It is important to note that cause and effect relationships usually cannot be demonstrated with monitoring data, but monitoring data might suggest a cause and effect relationship that can then be investigated with a research study.

Monitoring and evaluation activities provide ongoing feedback about management effectiveness and are essential elements of an adaptive management cycle that includes problem identification, solution, and implementation (figure 4). Monitoring and evaluation activities keep direction found in the plan up-to-date and relevant by being responsive to changing conditions and issues, including public desires, and to new information, such as research results or outcomes from management activities.

Figure 4. Elements of an “Adaptive” Management Cycle



Monitoring Strategy

A strategy for plan monitoring and evaluation has been designed to answer these three basic questions:

1. **Did we do what we said we were going to do?** The answers to this question should tell us how well the direction in the plan is being implemented. Collected information is compared to objectives, standards, guidelines, and management area direction.
2. **Did it work how we said it would?** The answers to this question should tell us whether the application of standards and guidelines is achieving objectives, and whether objectives are achieving or moving toward desired conditions.
3. **Is our understanding and science correct?** The answers to this question should tell us whether the assumptions and predicted effects used to formulate the desired conditions and objectives are valid.

The following guiding principles are key elements of the Prescott NF’s monitoring strategy and serve as a framework for implementing an effective monitoring and evaluation program:

- Monitoring efforts are efficient, practical and affordable; take into consideration the best available science; and do not duplicate the collection of data already underway for other purposes.
- Monitoring tasks are scaled to the desired condition, objective, or management area direction to be monitored. Data that is collected for other purposes, but can also answer monitoring questions herein, are identified, compiled, and evaluated as part of the monitoring report.
- Monitoring considers effects of management on Forest Service lands and resources as well as adjacent lands and communities. Monitoring results from adjacent non-Forest

Service lands are reviewed to identify how threats and resources may be crossing boundaries, and how pressures and management of surrounding lands may impact resources or activity on National Forest System lands.

- Opportunities to complete monitoring and evaluation activities through partnerships and citizen collaboration are examined on a regular and ongoing basis.
- Monitoring is not performed on every single activity, nor does it need to meet the statistical rigor of formal research.
- A monitoring action plan is prepared initially and updated regularly. The monitoring action plan identifies and schedules various site-specific, on-the-ground monitoring activities. It also describes the methods, locations, responsible persons, and estimated costs. Budgetary constraints may affect the level of monitoring that can be done in a particular fiscal year. If budget levels limit the Prescott NF's ability to perform all monitoring tasks, then those items specifically required by law are given the highest priority (e.g., items in table 5 under theme 1).
- A monitoring and evaluation report is prepared using an interdisciplinary approach that summarizes the results of completed monitoring and evaluates the data for indicators of trends or effects.
- The forest supervisor evaluates the monitoring information displayed in the evaluation reports through a management review and determines if any changes are needed in management actions or the plan itself.
- The public is given timely, accurate information about plan implementation and effectiveness. This is accomplished through the release of a forestwide monitoring and evaluation report.

The specific monitoring questions and performance measures that should be used to evaluate movement toward plan desired conditions under this monitoring strategy are displayed below in table 5 and arranged according to six monitoring themes:

1. Legally Required Monitoring
2. Conserving Biological Diversity
3. Retaining Ecosystem Resilience
4. Maintaining Watershed, Soil, and Air Quality
5. Sustaining Recreational and Social Benefits
6. Maintaining Infrastructure Capacity

In some cases, the monitoring questions and performance measures directly assess accomplishment of desired conditions. In other cases, they gauge objectives or standards and guidelines associated with the desired conditions.

The information gathered through plan monitoring will be evaluated and reported out every other year, with the first monitoring report covering fiscal years 2016 and 2017 (FY16 and FY17) issued in 2018.

For each monitoring question/performance measure listed in table 5, additional monitoring descriptors are included to provide context for the type of information to gather during monitoring and how often to gather it. These descriptors are defined here:

- **Frequency of Monitoring:** Describes how often information is gathered or measured such as annually, every 2 to 4 years, or every 10 years.
- **Data Precision and Accuracy:** Precision refers to how close the repeated measurements of the same quantity are to each other. Accuracy is a measure of how close a measurement is to the actual value of the variable being measured.

Two categories of reliability are appropriate at the plan scale:

- **Class A:** Methods generally are well accepted for modeling or quantitative measurement. Results have a high degree of repeatability, accuracy, and precision.
- **Class B:** Methods or measurements are based on project records, personal communications, ocular estimates, pace transects, informal visitor surveys, and similar types of assessments. The degree of repeatability, accuracy, and precision are not as high as class A methods, but they still provide valuable qualitative information.

Table 5. Monitoring Questions

Action, Effect, or Resource to be Measured	Monitoring Question	Performance Measure	Monitoring Frequency	Data Reliability
Theme 1 – Legally Required Monitoring				
Progress toward meeting the desired conditions and objectives in the plan. (Section 219.12(a)(5) (vii))	Are we achieving plan objectives within the estimated ranges?	Proportion of objectives accomplished	Annually	A
The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land. (Section 219.12(a)(5) (viii))	Are the effects of forest management resulting in significant changes to the productivity of the land?	Changes in watershed condition class (6 th level hydrologic units)	Annually	A
Status of focal species ²⁹ to assess ecological conditions due to management actions (Section 219.12(a)(5) (iii)).	What is the habitat occupancy of focal species in response to management actions within the plan area?	Focal species habitat attributes; focal species occurrence and distribution	Every 1-5 years, depending on species	A
Lands not suited for timber production. (Section 219.11(a)(2))	Have areas classified as unsuited for timber production become suitable?	Amount of unsuited versus suitable acres	Every 10 years	A
Theme 2 – Conserving Biological Diversity				
Vegetation diversity (Obj-1, Obj-2, Obj-3, Obj-4, Obj-5, Obj-6, DC-Veg-1)	What are the current condition and trend of key characteristics for vegetation identified in the desired conditions for the plan area?	Vegetation size class, percent canopy cover, and composition; carbon stored in vegetation; acres of treatment by treatment type	Every 4 years	A
	How effective are management actions at maintaining or making progress toward desired conditions for the key characteristics of vegetation within the plan area?			

²⁹ The transition to the new monitoring requirements at 36 CFR 219.12(a)(5) resulted in some changes to this plan monitoring program. The Management Indicator Species (MIS) used to compare and evaluate the plan alternatives were replaced and supplemented with four focal species: northern goshawk, western scrub-jay, western meadowlark, and aquatic macroinvertebrates.

Action, Effect, or Resource to be Measured	Monitoring Question	Performance Measure	Monitoring Frequency	Data Reliability
Species diversity (Obj-1, Obj-2, Obj-3, Obj-4, Obj-5, Obj-6, Obj-25, Obj-26, Obj-27, Obj-28, DC-Ecosystem Resilience-1, DC-Wildlife-1 to 2)	To what extent are management activities providing ecological conditions to maintain habitat for populations of terrestrial native and desired nonnative species?	Habitat acres treated; miles of fence modified; number of water developments improved; species surveys (e.g., fish, reptiles and amphibians, breeding birds, bats)	Every 2-4 years, depending on species	A
Aquatic species (Obj-24, DC-Aquatic-1, DC-Aquatic-3)	Are management actions maintaining or making progress toward desired habitat conditions for native fish, amphibian, and aquatic reptile species?	Aquatic habitat quality; stream miles improved	Every 2-4 years, depending on species	A
Species Conservation (DC-Ecosystem Resilience-1)	Have recovery actions for federally listed species or conservation strategies for regionally sensitive species ³⁰ been implemented?	Number of actions completed	Every 2-4 years, depending on species	A
	What are the habitat trends for federally listed species on the Prescott NF?	Habitat attributes (e.g. acres of habitat, ctitical habitat improved)		
Theme 3 – Retaining Ecosystem Resilience				
Nonnative invasive plant species (Obj-6, DC-Ecosystem Resilience-1, DC-Veg-1)	What are the status and trend of areas infested by invasive plant species?	Acres of invasive species surveyed; acres of infestation treated	Annually	A
Destructive insects and disease (DC-Ecosystem Resilience-1)	To what extent are undesirable outbreaks of insects and pathogens occurring within the plan area?	Acres of infestation and tree mortality	Annually	A

³⁰ Under current direction, the Prescott NF has chosen to consider regionally sensitive species to be species of conservation concern

Action, Effect, or Resource to be Measured	Monitoring Question	Performance Measure	Monitoring Frequency	Data Reliability
Fire (Obj-1, Obj-2, Obj-3, Obj-4, Obj-5, DC-Airshed-1, DC-Ecosystem Resilience-1)	Are management actions moving fire regimes toward desired conditions?	Acres treated by fire severity level and frequency	Annually	A
	To what extent is wildland fire used to maintain desired fuel levels and vegetation characteristics? To what extent is unwanted wildfire on the landscape suppressed?	Acres of fire managed for multiple objectives; acres of unwanted fire suppressed; postfire fuel loadings		
	To what extent is prescribed fire used to maintain desired fuel levels, mirror natural processes, and/or restore desired vegetation characteristics?	Acres of prescribed fire by fuel type; postfire fuel loadings; vegetation species structure and density		
	Has the risk for active crown fire been sufficiently reduced in fire-adapted ecosystems where crown fires were not frequent occurrences historically?	Predicted fire behavior by fuel type/loading		
	To what extent are extreme weather patterns (e.g., precipitation and air temperature) affecting fire season length and severity?	Monthly/daily energy release component (ERC) estimates by fuel type		
Ecosystem resilience (DC-Ecosystem Resilience-1)	What management actions, measures, or decisions is the Forest Service taking to enhance ecosystem resilience or adaptation in response to changing environmental conditions?	Project level design features or mitigations	Every 2 years	A

Action, Effect, or Resource to be Measured	Monitoring Question	Performance Measure	Monitoring Frequency	Data Reliability
	<p>What interacting stressors ³¹ are impacting the plan area?</p> <p>How are these stressors trending, and how are these trends affecting the plan area?</p>	<p>Project level identification of measurable changes resulting from climate change</p> <p>Monthly energy release component (ERC) estimates by fuel type</p> <p>Acres of unwanted wildfire</p> <p>Acres of infestation and tree mortality</p> <p>Acres of invasive species surveyed</p> <p>Visitor use trends</p>	Annually	A
Theme 4 – Maintaining Watershed, Soil, and Air Quality				
High priority watersheds (Obj-18)	Are management actions being implemented to improve watershed conditions?	Number of projects implemented	Annually	A
Watershed features (Obj-19, Obj-23)	Are management actions being implemented to improve conditions of at-risk riparian areas, seeps, and springs?	Number of projects implemented	Annually	A
Watershed Conditions (Obj-20, Obj-21, Obj-22, Obj-31)	Are management actions being implemented to reduce negative impacts to watershed conditions?	Miles of repaired or improved roads, routes, or trails	Annually	A
		Number of improved drainage crossings, stream channels, and floodplains.	Annually	A

³¹ Interacting stressors may include fire, insects, invasive species, loss of spatial connectivity, disruption of natural disturbance regimes, geologic hazards, water withdrawals and diversions, and changes in social, economic, and cultural conditions, among others.

Action, Effect, or Resource to be Measured	Monitoring Question	Performance Measure	Monitoring Frequency	Data Reliability
Airshed conditions (DC-Airshed-1)	Are management activities contributing or responding to air quality effects on human health or human enjoyment?	Particulate matter (PM _{2.5}) recorded at smoke sensitive sites	Annually	A
	Are air quality related values (e.g., visibility) of the Sycamore Canyon and Pine Mountain Wilderness areas being maintained?	Visibility using Interagency Monitoring of Protected Visual Environments (IMPROVE) program	Annually	A
Theme 5 – Sustaining Recreational and Social Benefits				
Diverse recreation opportunities (Obj-8, Obj-10, Obj-13, Obj-14, Obj-16, DC-Rec-1, DC-Rec-Trails-2)	How many new recreation opportunities have been added to the system?	Number of facilities or dispersed sites	Every 2 years	A
	How many recreation sites or locations have been improved, relocated, or decommissioned in response to known resource damage?			
	Does the number of recreation opportunities limit overcrowding, reduce user conflicts, and minimize resource damage? Does the range of recreation opportunities consider population demographic characteristics and desires of the local communities?	Visitor use trends, recreation impact assessments, user satisfaction surveys (e.g., National Visitor Use Monitoring)	Every 4-6 years	A
	To what extent are visitor information opportunities/ education activities being provided to the public?	Number and type of visitor information and education activities	Annually	B

Action, Effect, or Resource to be Measured	Monitoring Question	Performance Measure	Monitoring Frequency	Data Reliability
Wild and scenic rivers (DC-Wild & Scenic-1)	Has there been adequate protection of outstandingly remarkable values (ORVs) of wild and scenic river segments that are eligible or designated?	Changes to ORVs	Every 4-6 years	B
Wilderness areas (DC-Wilderness-1)	Has there been adequate protection of wilderness characteristics of areas that are existing wilderness or recommended for wilderness designation?	Changes to wilderness character	Every 4-6 years	B
Land adjustment (DC-Open Space-1, DC-Lands-1, Obj-29, Obj-31)	To what extent is the Prescott NF land adjustment program supporting or enhancing plan desired conditions (e.g., open space, scenery values, historic access)?	Area of land adjustment that meets community open space needs and provides for natural resource values	Every 4-6 years	B
Theme 6 – Maintaining Infrastructure Capacity				
Roads, trails, and facilities (Obj-9, Obj-11, Obj-12, Obj-15, Obj-17) (DC-Rec-Trails-2, DC-Transportation & Facilities-1)	How many miles of the designated roads and trails are maintained to standard?	Miles of roads and trails	Annually	A
	How many developed and designated recreation sites are being maintained?	Percentage of sites maintained	Annually	A
	What proportion of trailheads and wilderness boundaries are adequately signed or marked?	Percentage of total trailheads; miles of wilderness boundary	Annually	A

Chapter 7. Suitability



Commercial timber sale operation

Introduction

The National Forest Management Act (NFMA) states that national forest plans shall provide for multiple use and sustained yield of products and services through management of renewable surface resources to best meet the needs of the American people. NFMA also requires that NFS lands be classified as to their suitability for various uses including timber production, forage production for grazing animals, and recreation opportunities.

In the context of the plan, suitability refers to the appropriateness of applying certain resource management practices to a particular area of land, in consideration of the relevant social, economic, and ecological factors. Suitability determinations are one of the decisions made as part of revising the plan.

Suitability is determined based on compatibility with desired conditions and objectives in the plan area. Lands within the plan area are not identified as suitable for a certain use if that use is prohibited by law, regulation, or policy; would result in substantial and permanent impairment of the productivity of the land or renewable resources; or if the use is incompatible with the desired conditions for the relevant portion of the plan area.

The suitability determinations (plan decisions) are summarized below and displayed in tables 6, 7, and 8. The information outside of these tables are not plan decisions but are provided for background.

Suitability Determinations for Timber, Grazing, and Recreation

Suit-Timber-1	The amount of land suitable for timber production is 38,875 acres.
Suit-Grazing-1	The amount of land suitable for grazing animals is 913,078 acres.
Suit-Rec-1	The suitability of areas for recreation use varies by the activity and setting, as shown in the recreation suitability matrix.

Timber Suitability

The Forest Service Manual (FSM 1900) defines timber production as, “the purposeful growing, tending, harvesting, and regeneration of regulated crops of trees for cutting into logs, bolts, or other round sections for industrial or consumer use.” For purposes of forest planning, timber production does not include firewood or harvests from unsuitable lands. FSM 1900 defines forest land as land which is at least 10 percent occupied by forest trees or formerly having had such tree cover and not currently developed for nonforest use. Lands developed for nonforest use include areas for crops, improved pasture, residential or administrative areas, improved roads of any width, and adjoining road clearing and power line clearing of any width.

Unsuitable forest land is forest land not managed for timber production because: (a) Congress, the Secretary of the Department of Agriculture, or the Chief of the Forest Service has withdrawn it; (b) it is not producing or capable of producing crops of industrial wood; (c) technology is not available to prevent irreversible damage to soils productivity or watershed conditions; (d) there is no reasonable assurance based on existing technology and knowledge that it is possible to restock lands within 5 years after final harvest, as reflected in current research and experience; (e) there is, at present, a lack of adequate information about ecological responses to timber management activities; or (f) timber management is inconsistent with or not cost efficient in meeting the management requirements and multiple-use objectives specified in the plan. Table 6 displays the amount of lands suitable for timber production on the Prescott NF. For additional information, see the “Timber Suitability, Long-Term Sustained Yield Capacity, and Allowable Sale Quantity Report” (Forest Service, 2011b).

Table 6. Timber suitability on the Prescott NF (in acres)

Total NFS Lands	1,255,804
Nonforest lands	-1,182,829
Lands withdrawn from timber production	-12,136
Lands where irreversible resource damage likely	0

Total NFS Lands	1,255,804
Lands where adequate restocking not assured	0
Total lands tentatively suitable for timber production	60,839
Lands where management area prescriptions preclude timber production	-25
Lands where management objectives limit timber harvest	-16,426
Lands that are not economically cost efficient	-5,513
Total lands not appropriate for timber production	21,964
Total lands suitable for timber production	38,875
Total lands not suitable for timber production	1,216,929

Range Suitability

The capability of the land to produce forage for grazing animals depends primarily upon site conditions such as climate, slope, landform, soils, and geology. The capability of the lands on the Prescott NF to produce forage for grazing animals was determined in the 1980s during the first round of forest planning. Most landscape-scale conditions that determine capability have not changed significantly since the first evaluation.

Table 7. Grazing capability on the Prescott NF (in acres)

Total NFS Lands	1,267,515
Lands generally not capable for livestock grazing	
Forage productivity less than 100 lbs. per acre per year	127,508
Soils that are Inherently Unstable ¹	114,786
Steep slopes greater than 60 percent	15,400
Total lands generally not capable for livestock grazing	257,694
Lands generally capable for livestock grazing (total – not capable)	1,009,821²

¹ This classification is displayed in TES under Landscape features and is an interpretation based on climate, soils, rock features, and slopes. It indicates conditions where annual soil renewability is less than soil loss under natural conditions described in Potential Plant Community in the TES document. Therefore, retention of vegetative cover may not slow erosion or soil creep processes even with management intervention, such as seeding.

² This area is about 4 percent less than the pre-GIS calculation in the 1983 Analysis of the Management Situation due to increased accuracy in the mapping.

Suitability is determined based on compatibility with desired conditions and objectives in the plan area. Lands within the plan area are not identified as suitable for a certain use if that use is prohibited by law, regulation, or policy; would result in substantial and permanent impairment of the productivity of the land or renewable resources; or if the use is incompatible with the desired conditions for the relevant portion of the plan area.

An identification of an area as suitable for a particular use does not mean that the use will occur over the entire area. Likewise, identifying that a particular use is not suitable in a management area does not mean that the use will not occur in specific areas. The identification of an area as suitable for various uses is guidance for project and activity decisionmaking and is not a resource commitment or final decision approving projects and activities. Final decisions on resource commitments are made at the project level. The final decision to authorize livestock grazing would be made at a project (allotment) level.

The 1987 Forest Plan (1987 plan) identified Management Area 7 as unsuitable for livestock grazing. It consisted of three recreation areas: Lynx Lake Recreation Area, Granite Basin Recreation Area and summer home group, and the Verde Wild and Scenic River. In addition to Management Area 7, the Prescott Municipal Watershed was considered unsuitable for grazing as part of a 1924 agreement, and Lane Mountain Watershed was excluded beginning in 1975. These exclusions were carried over into the new suitability analysis.

Since the 1987 plan was completed, site-specific grazing allotment analyses and decisions have resulted in exclusion of grazing within certain areas of the Prescott NF. Table 8 displays the acreage of these large exclusions that have been included in the grazing suitability calculation. For additional information, see the “Determination of Livestock Grazing Capability and Suitability Report” (Forest Service, 2015).

Figure 5 displays areas excluded from grazing since 1987, areas excluded as part of Management Area 7, and areas excluded as part of the Prescott Municipal Watershed in the 1987 plan. The remainder of the Prescott NF displayed is suitable for grazing. Note that exclusions at the allotment or pasture level are not shown due to the scale of the map.

Table 8. Grazing suitability on the Prescott NF (in acres)

Lands generally capable for livestock grazing		1, 009,821
Lands generally not suitable for livestock grazing		
1987 Forest Plan Management Area 7		4,547
<u>1987 Forest Plan Excluded Watersheds</u>		<u>35,141</u>
Lands generally not suitable for livestock grazing in the 1987 Forest Plan		- 39,688
Allotments where a portion of acreage was excluded since the 1987 plan was approved	Crown King	-15,380
	Big Bug	-1,215
	Maverick	-13,000
	Crooks Canyon	-8,700
	Brady	-1,920
	Cold Springs	-10,806
	Burnt Ranch	-4,048
	<u>Goat Peak</u>	<u>-1,986</u>
Total allotment exclusions		-57,055
Lands generally suitable for livestock grazing in the 2015 Forest Plan (1987 suitable acres – allotment specific exclusions)		913,078

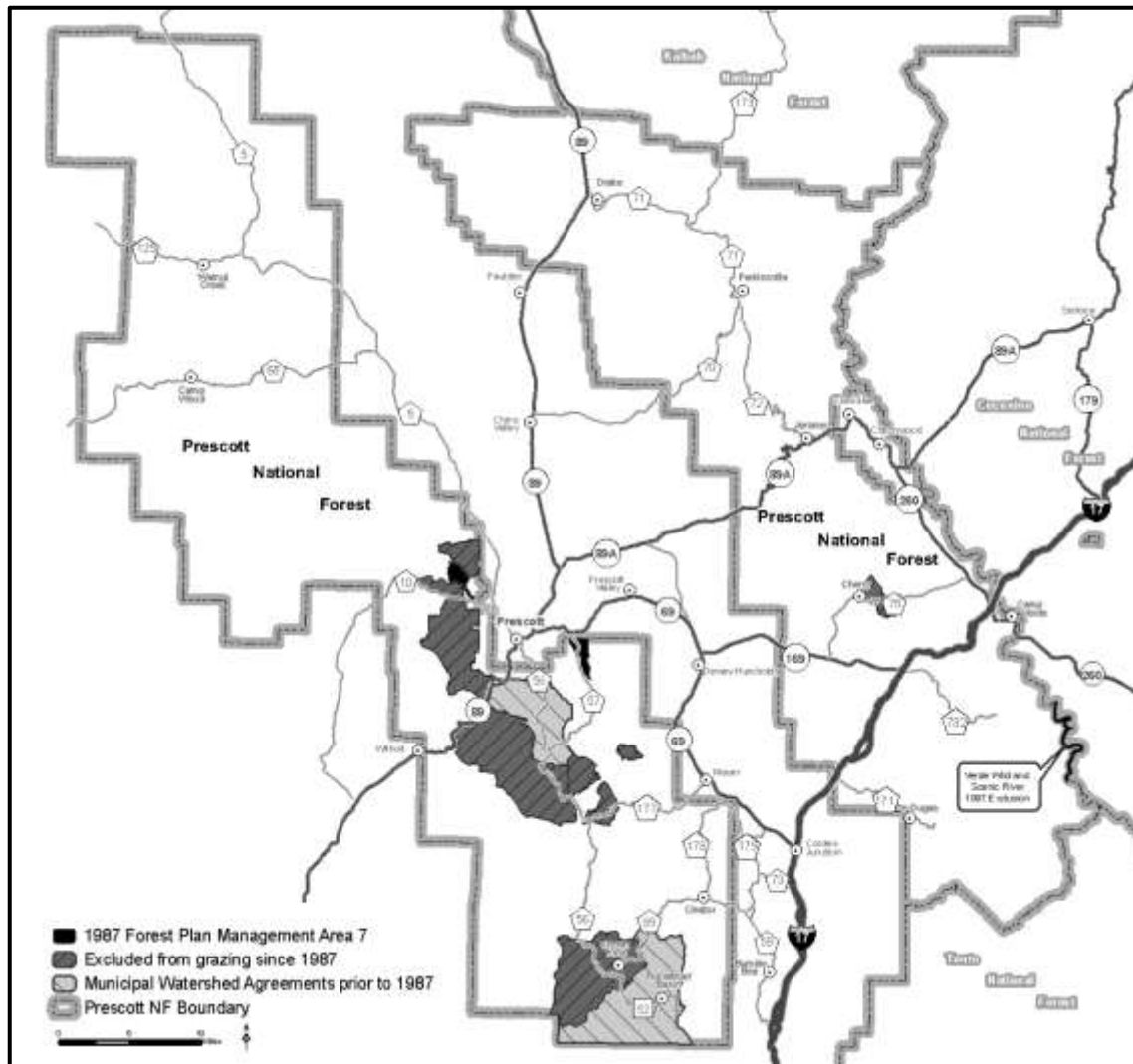


Figure 5. Large area grazing exclusions

Recreation Suitability

A broad spectrum of outdoor recreation opportunities are provided on the Prescott NF. Opportunities provided are to be consistent with needs and demands for all major resources.

An area or setting is deemed suitable if it is appropriate for the activity, regardless of whether the opportunity exists. This does not mean that the activity will occur over the entire area. National Forest System lands are generally suitable for a variety of uses, including recreation, unless restricted by presidential, congressional, or administrative constraints.

A setting is not suitable if it is not appropriate for the activity or the activity is not allowed by law, regulation, or policy within the area. Areas that are permitted for other resource use, such as communication sites, electric substations, mining operations, or energy development, are not suitable for recreation; these settings are also not listed in the suitability matrix. The following setting definitions are provided for clarity:

Administrative Facilities – buildings and areas where the primary purpose is to support Forest Service functions and administration. Examples include forest supervisor and ranger district offices, work centers, and aviation facilities.

Designated OHV Area – an area set aside for motorized cross-country travel as identified in the “Prescott National Forest Motor Vehicle Use Map.”

Developed Recreation Facilities – buildings or structures designed to enhance the visitor’s recreation experience and provide a greater level of convenience at the site. These include campgrounds and picnic areas with designated sites, day use areas with toilet facilities, designated shooting ranges, and developed trailheads.

Motorized Forest System Trails – trails that have been identified on the “Prescott National Forest Motor Vehicle Use Map” as open for motorized use.

Nonmotorized Forest System Trails – trails that are constructed or maintained by the Forest Service and which are open for travel by foot, horse, or bicycle.

Heritage Interpretive Area – an area with unique opportunities to expand cultural or historic knowledge.

Wild and Scenic River – a congressionally designated river or river segment that meets at least one of three classifications: wild, scenic, or recreation. These classifications are dependent upon access, shoreline development, and flow restrictions.

Wilderness – refers to existing designated wilderness areas.

Table 9 indicates suitability of various recreation activities within the various identified settings.

Table 9. Recreation Suitability Matrix

		Activities						
		Developed Recreation	Dispersed Camping	Nonmotorized Dispersed Recreation	Motorized Recreation	Water-based Recreation	Education / Interpretation	
		Suitable – the area or site is appropriate for the activity, whether the opportunity is available or not. Not Suitable – the area or site is not appropriate for the activity or the activity is not allowed by law or regulation within the area.	Activities that are dependent upon facilities provided by the Forest Service. Examples include developed camping, picnicking, or group gatherings.	Camping outside of a developed campground, including designated dispersed camping, dispersed car camping, and back-country camping.	Activities which are not dependent upon developed facilities or motorized equipment, including hiking, backpacking, hunting, wildlife viewing, rock climbing, equestrian use, or mountain biking.	The operation of motorized vehicles such as all-terrain vehicles, off-highway vehicles, or motorcycles for recreation as opposed to transportation.	On water and water adjacent activities such as rafting, tubing, kayaking, boating, swimming, wading, and fishing. Includes both motorized and nonmotorized use.	Recreation based on the pursuit of knowledge and understanding. Ranges from formal displays and programs to outdoor classrooms, interpretive field trips, and citizen scientist projects.
Settings	Developed Recreation Facilities	Suitable	Not Suitable	Not Suitable	Not Suitable	Suitable	Suitable	
	Heritage Interpretive Area	Suitable	Not Suitable	Suitable	Not Suitable	Not Suitable	Suitable	
	Wilderness ¹	Not Suitable	Suitable	Suitable for nonmechanized only	Not Suitable	Suitable	Suitable	
	Wild and Scenic River	Suitable ²	Suitable	Suitable	Not Suitable	Suitable	Suitable	
	Grapevine Botanical Area	Not Suitable	Not Suitable	Suitable	Not Suitable	Suitable	Suitable	
	Nonmotorized Forest System Trails	Not Suitable	Suitable	Suitable	Not Suitable	Not Suitable	Suitable	
	Motorized Forest System Trails	Not Suitable	Suitable	Suitable where allowed	Suitable	Not Suitable	Suitable	
	Designated OHV Area	Suitable	Not Suitable	Not Suitable	Suitable	Not Suitable	Suitable	
	Administrative Facilities	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable	Suitable	

¹ Recreation suitability in recommended wilderness is at the discretion of the forest supervisor.² Developed recreation activities are suitable in river segment corridors classified as “recreational.”

Chapter 8. Additional Plan Direction



Sycamore Canyon Wilderness

Introduction

In addition to the plan decisions (i.e., plan components) outlined in the previous chapters, other direction exists which must be followed in implementing the plan. The direction found in this chapter addresses: (1) projects' consistency with the plan, (2) changes to the plan, and (3) other vital documents which must be followed to implement the plan.

Project Consistency with the Plan

As required by the National Forest Management Act and the National Forest System Land Management Planning Rule, all projects and activities¹ authorized by the Forest Service must be consistent with decisions in the plan (i.e., desired conditions, objectives, standards, guidelines, special areas, suitability of areas, and monitoring). Projects are not required to be consistent with nonplan decisions such as: introduction, background, existing conditions, management

¹ Projects and activities as defined in 16 U.S.C. 1604(i); these include resource plan and permits, contracts, and other instruments for the use and occupancy of National Forest System lands.

approaches, community visions, glossary, possible actions, and information included purely for reference.

Where a proposed project or activity would not be consistent with a plan decision, the responsible official has the following options:

- To modify the proposal so that the project or activity will be consistent;
- To reject the proposal; or
- To amend the plan at the same time as the approval of the project or activity so that the project or activity is consistent with the plan as amended. The amendment may be limited to apply only to the project or activity.

Typically, projects or activities are developed specifically to achieve the desired conditions or objectives of the plan; however, some projects or activities may not necessarily be tied to any specific desired condition or objective in the plan (e.g., routine road maintenance, facility maintenance). In such cases, these may still be considered consistent with the plan if they do not prevent the attainment of these plan components; these projects and activities should be briefly evaluated for any conflicts with the plan's desired conditions and objectives. In implementation of the plan, projects are expected to comply with the plan's standards and guidelines, suitability, and management area direction. Early in the project planning process, these applicable plan components should be identified and documented to ensure consistency with the plan.

It is important to note that while the plan is to be used as direction for future projects, it is not expected that this new direction be used to reevaluate or change decisions that have been made under the previous land management plan. A smooth and gradual transition to the new plan is anticipated, rather than one that forces an immediate reexamination or modification of all projects, contracts, permits, and other activities that are already in progress. As new project decisions, contracts, permits, renewals, and other activities are considered, consistency with the new plan is expected.

The following paragraphs describe in greater detail how a project or activity is consistent with the plan components and the requirements for documenting consistency.

Plan Desired Conditions

Most projects and activities are developed specifically to maintain or move conditions toward one or many of the desired conditions of the plan; consequently, it is not likely that a project or activity can maintain or contribute to the attainment of all desired conditions. In addition, it should not be expected that, in every instance, a project could clearly point to a specific desired condition as the reason the project was proposed.

There will also be instances when negative effects related to achieving a specific desired condition are appropriate, either for long-term progress toward that same desired condition or for progress toward or maintenance of another desired condition. In this situation, the responsible official for the project needs to identify and disclose these effects in the project documentation and make a decision that balances these considerations.

It is also important that project consistency with a desired condition be assessed at the appropriate scale. For example, if a desired condition addresses watershed functionality at the scale of a 5th

level watershed, then the contribution of any proposal to that desired condition should be considered at that scale.

To be consistent with the desired conditions of the plan, a project or activity, when assessed at the appropriate spatial scale described in the plan, must be designed to meet one or more of the following conditions:

- Maintain or make progress toward one or more of the desired conditions of the plan without adversely affecting progress toward, or maintenance of, other desired conditions; or
- Be neutral with regard to progress toward plan desired conditions; or
- Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward or maintenance of one or more desired conditions in the short term; or
- Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward other desired conditions in a negligible way over the long term.

The project documentation should explain how the project is consistent with desired conditions and describe any short term, or negligible long term, adverse effects the project may have on the maintenance or attainment of any desired condition.

Plan Objectives

A project or activity is consistent with the objectives of the plan if it contributes to or does not prevent the attainment of any applicable objectives.

The project documentation should identify any applicable objectives to which the project contributes and document that the project does not prevent the attainment of any objectives. If there are no applicable objectives, the project can still be considered consistent with the objectives component of the plan. The project documentation should state that there are no applicable objectives.

Plan Standards

A project or activity is consistent with a standard if the project or activity is designed in exact accord with the standard.

The project documentation should confirm that the project is consistent with applicable standards.

Plan Guidelines

A project or activity must be consistent with all guidelines applicable to the type of project or activity and its location in the plan area. A project or activity can be consistent with a guideline in either of two ways:

- The project or activity is designed exactly in accord with the guideline; or

- A project or activity design varies from the exact words of the guideline, but it is as effective in meeting the purpose of the guideline to contribute to the maintenance or attainment of relevant desired conditions and objectives.

The project documentation should describe how the project is consistent with the guidelines. When the project varies from the exact words of the guideline, the documentation must specifically explain how the project design is as effective in contributing to the maintenance or attainment of relevant desired conditions and objectives.

Plan Suitability

A project with the purpose of timber production may only occur in an area identified as suitable for timber production (16 U.S.C. 1604(k)). The documentation for the project should confirm the project area meets the suitability for timber production criteria set out in Section 219.14 of the 1982 Planning Rule Provisions.

Except for projects with a purpose of timber production, a project or activity can be consistent with plan suitability determinations in either of two ways:

- The project or activity is a use identified in the plan as generally suitable for the location where the project or activity is to occur; or
- The project or activity is not a use identified in the plan as generally suitable for the location (i.e., the plan is silent on the use or the plan identifies the use as generally not suitable), but the responsible official determines that the use is appropriate for that location's desired conditions and objectives.

The project documentation should describe that the project or activity is either: (1) a use for which the area is specifically identified in the plan as generally suitable or (2) not a use for which the area is specifically identified in the plan as general suitable but is nonetheless appropriate for that location.

Special Areas

Where the plan provides plan components for a special area, a project or activity must be consistent with those area-specific components. The project documentation should describe how the project or activity is consistent with the area-specific components of the plan.

Monitoring

Monitoring is used to determine the degree to which on-the-ground management is maintaining or making progress toward desired conditions. The questions and performance measures in the monitoring strategy are designed to evaluate this progress at the forest level and not the project level. Therefore, the project documentation does not need to describe plan level (i.e., forest level) monitoring, but it may describe monitoring measures specific to the project.

Changes to the Plan

A change to the plan requires either an administrative correction or a plan amendment. The following paragraphs summarize circumstances that warrant corrections or amendments to the plan.

Administrative Corrections

Administrative corrections are minor changes to the plan that do not substantively affect the management direction or create additional environmental consequences. These minor changes include the following:

- Changes made in sections of the plan that are considered “other content” or do not represent plan decisions.
- Corrections and updates of data published in the plan and minor changes to maps.
- Changes in projections of timber management activities expected to occur during the planning period.
- Minor changes in text such as typographical errors and clarification of explanatory text.

An administrative correction must be initially published as a proposed correction either on the Prescott NF Web site or in a local newspaper of record. The proposed correction must identify the language or map to be corrected, the proposed correction, and the reason for the correction. The public will have an opportunity to comment on the proposed correction within a 30-day period following publication. After reviewing the comments received, the final correction may be similarly published and the plan corrected.

Site-Specific Plan Amendments

Site-specific plan amendments allow specific projects or other activities to deviate from certain direction in the plan. These amendments occur only for a specific area or a specific project. They do not lead to changes in plan language, and if changes are made to management area map layers, they are made only for the area affected. Proposals for such amendments are usually accompanied by the appropriate NEPA analysis for the site-specific project in question. The procedures for processing a site-specific plan amendment are outlined in the applicable planning regulation (i.e., the planning rule).

Programmatic Plan Amendments

Programmatic plan amendments change the text and language of plan decisions (i.e., plan components) and any other changes that cannot be addressed through administrative corrections or site-specific plan amendments. The procedures for addressing a programmatic plan amendment are outlined in the applicable planning regulation.

Other Sources of Direction

The following sources contain direction which must be followed to implement the plan.

Motor Vehicle Use Map

The “Prescott National Forest Motor Vehicle Use Map” (MVUM) is the decision document which implements the Travel Management Rule. The MVUM displays the network of National Forest System roads, trails, and areas on National Forest System land that are designated for motor vehicle use.

Coconino National Forest Land Management Plan

The “Coconino National Forest Land and Resource Management Plan” provides direction for Sycamore Canyon Wilderness which is located within and managed by three national forests—the Coconino, Kaibab, and Prescott.

Verde Wild and Scenic River Comprehensive River Management Plan for Coconino, Prescott, and Tonto National Forests

The “Verde Wild and Scenic River Comprehensive River Management Plan” provides direction for managing the segments of the Verde River on the Coconino, Prescott, and Tonto NFs which have Congressional Wild and Scenic River designation.

Appendix B of the Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds

The “Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds” provides direction for an integrated program to treat noxious or invasive weeds in central Arizona on the Coconino, Kaibab, and Prescott NFs.



Sunset on the Prescott National Forest

List of Preparers

The following lists the names, titles, education, and experience of individuals who contributed to the development of the final “Prescott National Forest Land and Resource Management Plan.”

Name	Title	Education and Experience
Frances Alvarado	Geologist	M.S. Geology, University of Texas at San Antonio 5 years experience with the Forest Service
Christopher J. Brown	Planning Social/Economic/ Recreation Lead	B.S. Forest Resource Management, Virginia Polytechnic Institute & State University 12 years experience with the Forest Service
Noel Fletcher	Wildlife Biologist	B.S. Wildlife Management, University of Idaho 30 years experience with the Forest Service
Ann May	Landscape Architect	M.L.A. (Masters of Landscape Architecture), University of Michigan 21 years experience with the Forest Service
Dave Moore	Soil Scientist	B.S. Environmental Resources, Arizona State University 15 years experience with the Forest Service and 1 year with the Natural Resource Conservation Service
Gregory Olsen	Hydrologist	B.S. Environmental Earth Science, Eastern Connecticut State University 4 years experience with the Forest Service and 16 years experience with the Arizona Department of Environmental Quality
Tom Potter	GIS Coordinator	M.S. Watershed Management, University of Arizona 13 years experience with the Forest Service and 8 years experience with the National Park Service
Adriane Ragan	Writer/Editor	M.A. English, Northern Arizona University 9 years experience with the Forest Service
Mary Rasmussen	Planning Ecological Lead/ Forest Planner	M.S. Forest Ecology, Oregon State University 17 years experience with the Forest Service and 11 years experience with the National Park Service
Dan Salcido	Engineer	B.S. Civil Engineering, University of California, Berkeley 32 years experience with the Forest Service
Sheila Sandusky	Lands/Special Uses Specialist	Graduate, Bureau of Land Management Lands and Realty Academy and A.A. Liberal Arts, Cochise College 22 years experience with the Forest Service
Albert Sillas	Fisheries Biologist	B.S. Fisheries and Wildlife Science, New Mexico State University 22 years experience with the Forest Service and 7 years experience with the Fish and Wildlife Service
Christine Thiel	Natural Resources Planner/Range Program Lead	M.S. Environmental Resources in Agriculture, Arizona State University 16 years experience with the Forest Service

List of Preparers

Name	Title	Education and Experience
Jodi Wetzstein	Planning Forester	B.S. Forestry, Northern Arizona University; certified silviculturist 11 years experience with the Bureau of Land Management and 5 years experience with the Forest Service
Kurt Wetzstein	Forest Health Team Leader	B.S. Environmental and Natural Resource Science, University of Nevada Reno 17 years experience with the Forest Service
Jason Williams	Trails/Wilderness/ Dispersed Recreation Program Manager	M.A. Public Lands Management, Prescott College 3 years experience with the Forest Service and 7 years experience with the Arizona Wilderness Coalition

Other Forest Service Contributors

Review and input in the development of the final plan was received from the staffs of the Bradshaw, Chino Valley, and Verde Ranger Districts; the Prescott NF Supervisor's Office; and the Southwestern Region Regional Office.

Glossary

Adaptive capacity – The capacity of a system to adapt if the environment where the system exists is changing. As applied to ecological systems, adaptive capacity is determined by: (1) genetic diversity of species, (2) biodiversity within a particular ecosystem, and (3) heterogeneous ecosystem mosaics as applied to specific landscapes or biome regions.

Age class – Trees that originated within a relatively distinct range of years. Typically the range of years is considered to fall within 20 percent of the average natural maturity (e.g., if 100 years is required to reach maturity, then there would be five 20-year age classes).

Basal area – The cross-sectional area at breast height (4.5 feet above the ground) of trees measured in square feet. Basal area is a way to measure how much of a site is occupied by trees. The cross-sectional area is determined by calculating the tree's radius from its diameter (diameter/2 = radius) and using the formula for the area of a circle ($\pi \times \text{radius}^2$ = cross-sectional area). Basal area per acre is the summation of the cross-sectional area of all trees in an acre or in a smaller plot used to estimate basal area per acre. **Diameter at root collar** (defined below) is used to calculate the cross-sectional area of multitemmed trees such as juniper and oak.

Class I Federal areas – A classification where areas require the highest level of protection under the Clean Air Act (CAA). The CAA defines mandatory Class I Federal areas as certain national parks (over 6,000 acres), wilderness areas (over 5,000 acres), national memorial parks (over 5,000 acres), and international parks that were in existence as of August 1977.

Clump – A tight cluster of two to five trees of similar age and size originating from a common rooting zone that typically lean away from each other when mature. A clump is relatively isolated from other clumps or trees within a group of trees, but a stand-alone clump of trees can function as a tree group.

Coarse woody debris – Woody material, including logs, on the ground greater than 3 inches in diameter—a component of litter.

Concern level roads – Concern level 1 roads are travel routes where forest visitors have a high interest in scenic qualities. Concern level 2 roads are travelways where forest visitors have a moderate interest in scenic qualities. These routes are displayed in the “Scenery Management System Inventory Report” planning record (Forest Service, 2009d).

Connectivity – The arrangement of habitats that allows organisms and ecological processes to move across the landscape; the opposite of fragmentation. Patches of similar habitats are either close together or linked by corridors of appropriate vegetation.

Culturally important plant species – Plant species that either have specific requirements for survival and are found in few locations or have importance to American Indian tribes, communities, and nations.

Deciview – A measurement of visibility. A low deciview number reflects clearer visibility; while a high deciview number reflects increased haziness.

Declining – Refers to the senescent (aging) period in the lifespan of plants that includes the presence of dead and/or dying limbs, snag tops, and other characteristics that indicate the later life stages of vegetation.

Diameter at breast height (d.b.h.) – The diameter of a tree typically measured at 4.5 feet above ground level.

Diameter at root collar (d.r.c.) – The diameter typically measured at the root collar or at the natural ground line, whichever is higher, outside the bark. For a multitemmed tree, d.r.c. is calculated from the diameter measurements of all qualifying stems (≥ 1.5 " diameter and at least 1 foot in length).

Deferred maintenance – Maintenance that was not performed when it should have been or when it was scheduled and which, therefore, was put off or delayed for a future period. When allowed to accumulate without limits or consideration of useful life, deferred maintenance leads to deterioration of performance, increased costs to repair, and decrease in asset value. Deferred maintenance needs may be categorized as critical or noncritical at any point in time. Continued deferral of noncritical maintenance will normally result in an increase in critical deferred maintenance.

Ecosystems – These are spatially explicit, relatively homogeneous units of the earth that include all interacting organisms and elements of the abiotic environment within its boundaries. An ecosystem is commonly described in terms of its:

- **Composition** – The biological elements within the different levels of biological organizations, from genes and species to communities and ecosystems.
- **Structure** – The organization and physical arrangement of biological elements such as snags and down woody debris, vertical and horizontal distribution of vegetation, stream habitat complexity, landscape pattern, and connectivity.
- **Function** – Ecological processes, such as energy flow; nutrient cycling and retention; soil development and retention; predation and herbivory; and natural disturbances such as wind, fire, and floods that sustain composition and structure.

Ecosystem services – Benefits that people obtain from ecosystems. The Prescott NF provides clean water and air, productive soil, riparian and aquatic resources, diverse wildlife habitats, educational and cultural values, scenery, recreation, timber, forage, and forest products.

Endemic – A population that has unique genetic characteristics and likely exists in a very limited geographic area.

Even-aged – Stands of trees that are comprised of one distinct age class of trees.

Federally listed species – Threatened or Endangered species listed under the Endangered Species Act, as amended. **Candidate and proposed species** are species which are being considered for Federal listing.

Fire regime – The patterns, frequency, and severity of fire that occur over a long period of time across a landscape and its immediate effects on the ecosystem in which it occurs. There are five fire regimes which are classified based on frequency (average number of years between fires) and severity (amount of replacement of the dominant overstory vegetation) of the fire. These five regimes are:

- **Fire regime I** – 0 to 35 year frequency and low (surface fires most common, isolated torching can occur) to mixed severity (less than 75 percent of dominant overstory vegetation replaced).
- **Fire regime II** – 0 to 35 year frequency and high severity (greater than 75 percent of dominant overstory vegetation replaced).
- **Fire regime III** – 35 to 100+ year frequency and mixed severity.
- **Fire regime IV** – 35 to 100+ year frequency and high severity.
- **Fire regime V** – 200+ year frequency and high severity.

Fire severity – Degree to which a site has been altered or disrupted by fire; also used to describe the product of fire intensity and residence time; usually defined by the degree of soil heating or mortality of vegetation.

Goshawk foraging areas – The areas that surround the PFAs (see definition below) that northern goshawks use to hunt for prey. They are approximately 5,400 acres in size.

Goshawk nest areas – The areas immediately around a nest that are used by northern goshawks in relation to courtship and breeding activities. They are approximately 30 acres in size and contain multiple groups of large, old trees with interlocking crowns.

Goshawk post-fledgling family areas (PFAs) – The areas that surround northern goshawk nest areas. They represent an area of concentrated use by the northern goshawk family until the time the young are no longer dependent on adults for food. PFAs are approximately 420 acres in size (not including the nest area acres).

Groundwater dependent ecosystem – Wetlands, seeps, or springs that sustain a variety of plant and animal species. They are generally found where groundwater emerges at the land surface. Emergent riparian areas within these systems typically include a combination of sedge species, cattails, bull rushes, and various forbs or woody species, and on the Prescott NF are classified as part of the Riparian Gallery Forest PNVT.

Group – A cluster of two or more trees with interlocking or nearly interlocking crowns at maturity surrounded by an opening. Size of tree groups is typically variable depending on forest type and site conditions and can range from fractions of an acre such as a 2-tree group) (i.e., ponderosa pine, dry mixed conifer) to many acres (i.e., wet mixed conifer, spruce fir). Trees within groups are typically nonuniformly spaced, some of which may be tightly clumped.

Herbivory – The act of feeding on plants.

Hydrologic unit – The U.S. Geological Service created hydrologic units to describe the hierarchy of watersheds within the country. Hydrologic units are identified by hydrologic unit codes (HUCs). As the unit code increases, the size of the watershed referenced decreases (e.g., several 6th level watersheds can be combined to make up a 5th level watershed). The average size of a 4th level watershed (subbasin) is 1 million acres, 5th level watersheds (watersheds) are around 165,000 acres, and 6th level watersheds (subwatersheds) are about 21,000 acres.

Impaired waters – Polluted or degraded waterbodies (e.g., lakes, streams, segments of streams) which do not meet state water quality standards.

Instream flow – Seasonal streamflows needed for maintaining aquatic and riparian ecosystems, wildlife, fisheries, and recreation opportunities at an acceptable level.

Intactness – Untouched or unaltered, especially by anything that harms or diminishes its character.

Interspaces – Areas that are not currently under the vertical projection of the outermost perimeter of tree canopies. They are generally composed of grass-forb-shrub communities but could also be areas with scattered rock or exposed mineral soil. Interspaces do not include meadows, grasslands, rock outcroppings, and wetlands.

Litter – Dead, unattached organic material on the soil surface that is effective in protecting the soil surface from raindrop splash, sheet, and rill erosion and is at least one-half inch thick. Litter is composed of leaves, needles, cones, and woody vegetative debris, including twigs, branches, and trunks.

Maintenance levels – Maintenance levels define the level of service and maintenance requirements for a road. Maintenance levels 1 to 5 are described below:

- **Level 1** – These roads have been placed in storage between intermittent uses. They are not shown on motor vehicle use maps and are closed to vehicular traffic but may be available for nonmotorized uses.
- **Level 2** – These roads are for use by high-clearance vehicles; passenger car use is discouraged or prohibited.
- **Level 3** – These roads are open and maintained for passenger car use. Roads in this maintenance level are typically low speed with single lanes and turnouts.
- **Level 4** – These roads provide a moderate degree of user comfort and convenience at moderate travel speeds. Roads in this maintenance level are typically double lane and aggregate surfaced.
- **Level 5** – These roads provide a high degree of user comfort and convenience. Roads in this maintenance level are typically double lane and paved.

Minimum Impact Suppression Tactics (MIST) – The strategy and tactics that meet fire management objectives with the least environmental, cultural, and social impacts, including in this case, wilderness values.

Mosaic – The pattern of patches, corridors, and matrix (forest or nonforest) that form a landscape in its entirety.

National Forest System (NFS) – As defined in the Forest and Rangeland Renewable Resources Planning Act (P.L. 93-378), the “National Forest System” includes all national forest lands reserved or withdrawn from the public domain of the United States, all national forest lands acquired through purchase, exchange, donation, or other means; the national grasslands and land use projects administered under Title III of the Bankhead-Jones Farm Tenant Act (P.L. 75-210); and other lands, waters, or interests therein administered by the Forest Service or are designated for administration through the Forest Service as part of the system.

National Forest System (NFS) road or trail – A road or trail wholly or partly within or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources. A forest road or trail other than a road or trail which has been authorized by a legally documented right-of-way held by a state, county, or other local public road authority (36 CFR 212.1).

Natural fire regime – The fire regime that existed prior to human-facilitated interruption of frequency, extent, or severity.

Nonnative invasive species – Species that are not native to the ecosystem being described and that cause, or have the potential to cause, ecological or economic harm.

Old growth – “Old growth” refers to specific habitat components that occur in forests and woodlands—old trees, dead trees (snags), downed wood (coarse woody debris), and structure diversity. These important habitat features may occur in small areas, with only a few components, or over larger areas as stands or forests where old growth is concentrated. In the Southwest, old growth is considered “transitional,” given that the location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality) (Forest Service, 2012). Some species, notably certain plants, require “old forest” communities that may or may not have old growth components but have escaped significant disturbance for lengths of time necessary to provide the suitable stability and environment. In Southwestern forested ecosystems, old growth is different than the traditional definition based on Northwestern infrequent fire forests. Due to large differences among Southwestern vegetation types and natural disturbances, old growth forests vary extensively in tree size, age classes, presence and abundance of structural elements, stability, and presence of understory.

Openings – Spatial breaks between groups or patches of trees, as large as or larger than groups, which contain grass, forb, shrub, and/or tree seedlings but are largely devoid of big trees, with a total tree cover of less than 10 percent in openings.

Outstandingly remarkable value (ORV) – The unique, rare, or exemplary qualities that constitute the eligibility of a river segment for wild and/or scenic designation. ORV categories include: archaeology, scenery, fish, wildlife, recreation, and botany. A river must have one or more ORVs to be eligible for wild and/or scenic designation.

Patches – Areas larger than tree groups in which the vegetation composition and structure are relatively homogeneous. Patches comprise the mid-scale, thus they range in size from 100 to 1,000 acres. Patches and stands are roughly synonymous.

Perennial intermittent stream – Streams where flow is discontinuous; perennial flowing segments are separated by reaches that have intermittent flow.

Productive sites – Sites that provide needed nutrients, light, and moisture that allow for vigorous growth of trees.

Properly functioning condition – Riparian areas are functioning properly when adequate vegetation, landform, or large woody debris is present to: dissipate stream energy associated with high flows (thereby reducing erosion and improving water quality); filter sediment; capture bedload and aid in flood plain development; improve floodwater retention and groundwater

recharge; develop root masses that stabilize streambanks; develop diverse ponding and channel characteristics to provide habitat for fish, waterfowl, and other uses; and support greater biodiversity.

- **Functional-at-risk** – Riparian areas that are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation.
- **Improperly functioning** – Riparian areas that clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and, consequently, are not reducing erosion and improving water quality.

Recommended wilderness – A potential wilderness area within the National Forest System which has been recommended for official designation to the Chief of the Forest Service. The Chief may elect to forward the recommendation with wording for a congressional bill to the Secretary of Agriculture, who may then elect to transmit the proposed bill to Congress. It takes an act of Congress to designate a wilderness area.

Reference conditions – Environmental conditions that infer ecological sustainability. When available reference conditions are represented by the characteristic range of variation (not the total range of variation), prior to European settlement and under the current climatic period. For many ecosystems, the range of variation also reflects human-caused disturbance and effects prior to settlement. It may also be necessary to refine reference conditions according to contemporary factors (e.g., invasive species) or projected conditions (e.g., climate change). Reference conditions are most useful as an inference of sustainability when they have been quantified by amount, condition, spatial distribution, and temporal variation.

Resilience – The ability of an ecological system to absorb disturbances while retaining the same basic structure and ways of functioning; the capacity for self-organization; and the capacity to adapt to stress and change.

Restoration – A process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Ecological restoration focuses on establishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystem sustainability, resilience, and health under current and future conditions.

Riparian corridor – A riparian corridor consists of the stream and an adjacent area of varying width where management practices that might affect water quality, fish, or other aquatic resources are modified. It is an area that acts as an effective filter and absorptive zone for sediment; protects aquatic and terrestrial riparian habitats; protects a channel and streambanks; and promotes flood plain stability.

Soil condition – There are four types of soil condition classes: satisfactory, impaired, unsatisfactory, and inherently unstable.

- **Satisfactory** – Indicators signify that soil function is being sustained and soil is functioning properly and normally. The ability of the soil to maintain resource values and sustain outputs is high.
- **Impaired** – Indicators signify a reduction in soil function. The ability of the soil to function properly and normally has been reduced and/or there exists an increased vulnerability to degradation. An impaired category indicates there is a need to investigate

the ecosystem to determine the cause and degree of decline in soil functions. Changes in land management practices or other preventative measures may be appropriate.

- **Unsatisfactory** – Indicators signify that a loss of soil function has occurred. Degradation of vital soil functions result in the inability of the soil to maintain resource values, sustain outputs, or recover from impacts. Unsatisfactory soils are candidates for improved management practices or restoration designed to recover soil functions.
- **Inherently Unstable** – These soils have natural erosion exceeding tolerable limits. Based on the Universal Soil Loss Equation (USLE), these soils are eroding faster than they are renewing but are functioning properly and normally.

Slash – The residue (e.g., branches, bark) left on the ground after a management activity, such as logging, or natural disturbance such as a storm or fire.

Snags – Standing dead or partially dead trees (snag topped), often missing many or all limbs. They provide essential wildlife habitat for many species and are important for forest ecosystem function.

Southwestern Region sensitive species – Those plant and animal species identified by a regional forester for which population viability is a concern as evidenced by: (a) significant current or predicted downward trends in population numbers or density or (b) significant current or predicted downward trends in habitat capability that would reduce the existing distribution of a species (FSM 2670.5 Definitions).

Terrestrial Ecosystem Survey (TES) – Also called the Terrestrial Ecological Unit Inventory, the TES identifies ecological units for the Prescott NF that are distinct from each other in terms of their soil, vegetation, and climate components. The ecological units (TES or TEUI units) are mapped at the scale of 1:24,000. There are 147 TES units mapped for the Prescott NF. TES units were aggregated into 10 PNVTs for the purposes of assessing vegetation and soil characteristics across the Prescott NF.

Traditional cultural property – Defined in the National Register Bulletin as a location, building, structure, community, and individual objects that are considered eligible for inclusion in the National Register as a historic property because of its association with cultural practices or beliefs of a living community that are (1) rooted in that community's history and (2) important in maintaining the continuing cultural identity of the community.

Uneven-aged – Forests that are comprised of three or more distinct age classes of trees, either intimately mixed or in small groups.

Wildland fire – Wildland fire is any nonstructural fire that occurs in vegetation or natural fuels. It includes both wildfires and prescribed fires. Wildfires are fires with unplanned ignitions including lightning or unauthorized and accidental human-caused actions. **Prescribed fires** are intentionally ignited by the Forest Service under an approved plan to meet specific objectives.

Wildland-urban interface (WUI) – Wildland-urban interface includes those areas of resident populations at imminent risk from wildfire and human developments having special significance. These areas may include: critical communications sites, municipal watersheds, high voltage transmission lines, church camps, scout camps, research facilities, and other structures that, if destroyed by fire, would result in hardship to communities. These areas encompass not only the

sites themselves, but also the continuous slopes and fuels that lead directly to the sites, regardless of the distance involved.

References

- Bankhead-Jones Farm Tenant Act of 1937, P.L. 75-210, 50 Stat. 525, as amended.
- Bald and Golden Eagle Protection Act of 1962. P.L. 87-884, 76 Stat. 1246.
- Clark, J.S. (1998). Why trees migrate so fast: Confronting theory with dispersal biology and the paleorecord. *The American Naturalist*, 152(2), 204-224.
- Clean Air Act of 1963. P.L. 88-206, 77 Stat. 392.
- Dockery, D.W., Pope, C.A. 3rd, Xu, X., Spengler, J.D., Ware, J.H., Fay, M.E., Ferris, B.G. Jr., and Speizer, F. E. (1993). An association between air pollution and mortality in six U.S. cities. *New England Journal of Medicine*, 24, 1753-9.
- Endangered Species Act of 1973. P.L. 93-205, 87 Stat. 884, as amended.
- Forest and Rangeland Renewable Resources Planning Act of 1974. P.L. 93-378. 88 Stat. 476.
- Forest Service, U.S. Department of Agriculture. (1989). *Cultural Resources Overview*. Report No. 89-062. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2004). *The Verde Wild and Scenic River Comprehensive River Management Plan*. Flagstaff, Prescott, and Phoenix, AZ: Coconino, Prescott, and Tonto National Forests.
- Forest Service, U.S. Department of Agriculture. (2005a). *Final Environmental Impact Statement for the Treatment of Noxious or Invasive Weeds. Coconino, Kaibab, and Prescott National Forests*. Flagstaff, Williams, and Prescott, AZ.
- Forest Service, U.S. Department of Agriculture. (2005b). *Monitoring for Sustainability*. Prepared by the Inventory and Monitoring Institute. Fort Collins, CO.
- Forest Service, U.S. Department of Agriculture. (2005c). *Socio-Economic Assessment for the Prescott National Forest*. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2008). *Economic and Social Sustainability Assessment*. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2009a). *Adapting to Climate Change: A Short Course for Land Managers*. General Technical Report PNW-GTR-789, Portland, OR: Pacific Northwest Research Station. DVD online at: www.fs.fed.us/ccrc/hjar/index_st.html
- Forest Service, U.S. Department of Agriculture. (2009b). *Analysis of the Management Situation*. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2009c). *Ecological Sustainability Report*. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2009d). *Scenery Management System Inventory Report*. Prepared by USDA TEAMS. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2010a). *Southwestern Region Climate Change Trends and Forest Planning*. Albuquerque, NM: Southwestern Regional Office.

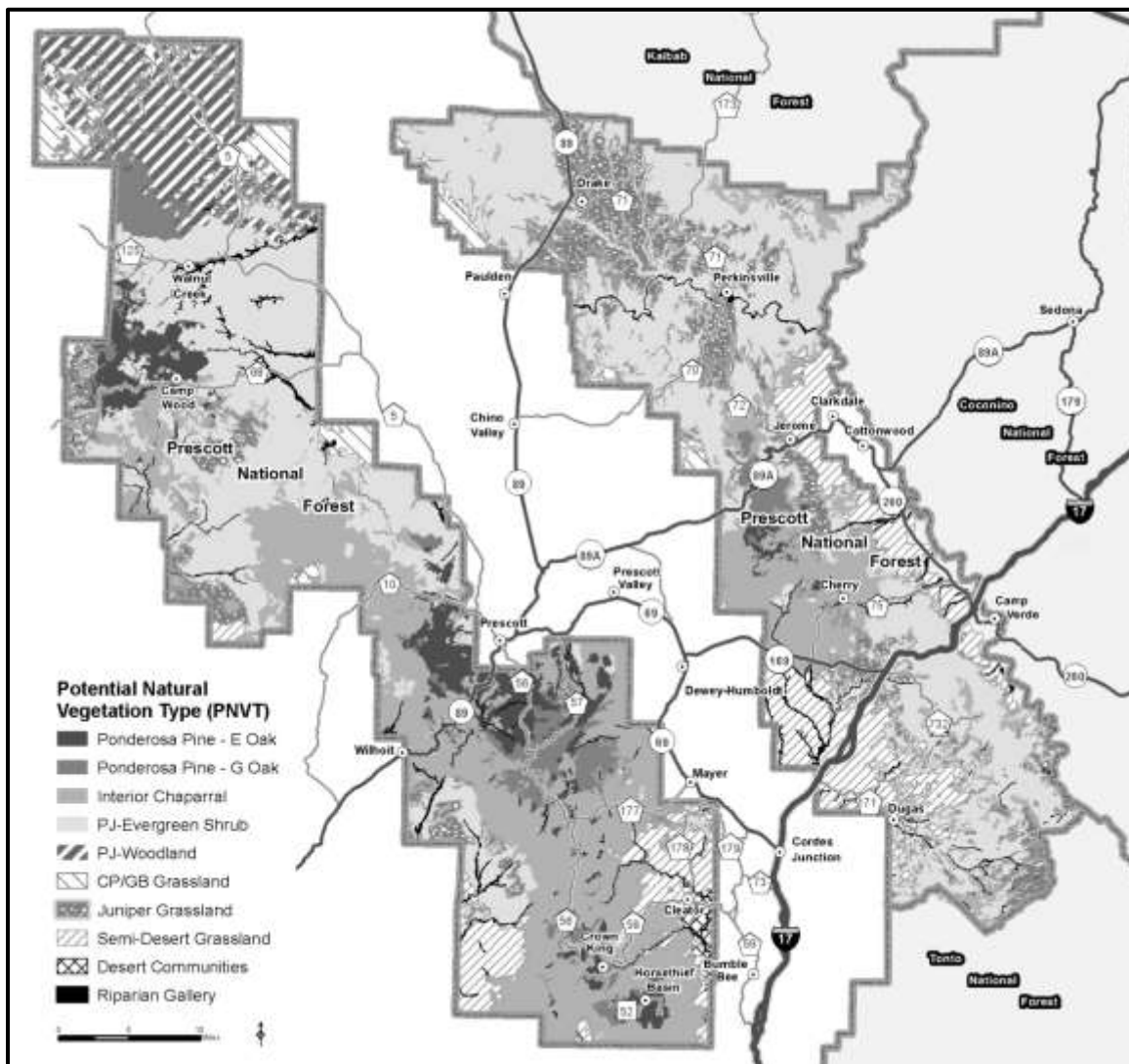
- Forest Service, U.S. Department of Agriculture. (2010b). *Upper Verde River Eligibility Report Update for the National Wild and Scenic River System*. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2011a). *Determination of Livestock Grazing Capability and Suitability Report*. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2011b). *Long-Term Sustained Yield Capacity, and Allowable Sale Quantity Report*. Prescott, AZ: Prescott National Forest.
- Forest Service, U.S. Department of Agriculture. (2012). *Old growth definition paper*. Albuquerque, NM: Southwestern Regional Office.
- Forest Service, U.S. Department of Agriculture. (2013). *Restoring Composition and Structure in Southwestern Frequent-Fire Forests: A science-based framework for improving ecosystem resiliency*. General Technical Report RMRS-GTR-310. Fort Collins, CO: Rocky Mountain Research Station. 76 pp.
- Forest Service, U.S. Department of Agriculture. (2015). *Determination of Livestock Grazing Capability and Suitability Report*. Prescott, AZ: Prescott National Forest.
- Halvina, et al. (2007). Interagency Fire Regime Condition Class website. U.S. Department of Agriculture, Forest Service; U.S. Department of the Interior; The Nature Conservancy; and Systems for Environmental Management. Retrieved January 10, 2008 from www.frcc.gov.
- Joyce, L., Haynes, R., White, R., & Barbour, R.J. (tech. cords.). (2007). *Bringing climate change in to natural resource management proceedings*. Prepared for Forest Service, U.S. Department of Agriculture. Portland, OR: Pacific Northwest Research Station.
- Komar and Schultz. (2007). *Public Participation Strategy for the Prescott National Forest Plan Revision*. Parts I, II, and III. Hamilton, MT: Confab.
- Migratory Bird Treaty Act of 1918. 16 U.S.C. 710, as amended.
- Millar, C.I., Stephenson, N.L., and Stephens, S.L. (2007). Climate change and forests of the future: Managing in the face of uncertainty. *Ecological Applications*, 17(8), 2145-2151.
- Multiple Use Sustained Yield Act of 1960. P.L. 86-517, 74 Stat. 215, as amended.
- National Forest Management Act of 1976. P.L. 94-588, 90 Stat. 2949, as amended.
- National Historic Preservation Act of 1966. P.L. 89-665, 80 Stat. 915, as amended.
- Occupancy Permits Act of 1915. P.L.63-293, 38 Stat. 1101, as amended.
- Ockenfels, R.A., Ticer, C.L., Alexander, A., and Wennerlund, J.A. (1996a). *A landscape-level pronghorn habitat evaluation model for Arizona*. Arizona Game and Fish Department Technical Report 19. Phoenix, AZ.
- Ockenfels, R.A., Ticer, C.L., Alexander, A., Wennerlund, J.A., Hurley, P.A., Bright, J.L. (1996b). *Statewide evaluation of pronghorn habitat in Arizona*. Arizona Game and Fish Department Federal Aid Wildlife Restoration Project W-78-R Final Report. Phoenix, AZ.

References

- Ottmar, R.D. (2001). Smoke source characteristics. In *Smoke Management Guide for Prescribed and Wildland Fire 2001 Edition* (pp. 89-105). Boise, ID: National Wildfire Coordinating Group.
- Robertson, G. Boness, P., Gallegos, J., Hurja, J., Leathy, S., Miller, G., Robbie, W., Scalzone, K., Stein, R., and Steinke, R. (2000). Terrestrial Ecosystem Survey of the Prescott National Forest. Forest Service, Southwestern Region. Albuquerque, NM.
- Schussman, H. and E. Smith. (2006). *Vegetation Models for Southwest Vegetation*. Prepared for the Forest Service, Southwestern Region. Tucson, AZ: The Nature Conservancy.
- Secure Rural Schools Act of 2000. P.L. 110-343, 122 Stat. 3765, as amended.
- Solomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K.B., Tignor, M. and Miller, H.L. (Eds.). (2007). *Climate change 2007: The physical science basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. New York, NY: Cambridge University Press.
- Swetnam, T.W., Allen, C.D., and Betancourt, J.L. (1999). Applied historical ecology: Using the past to manage for the future. *Ecological Applications*, 9(4), 1189-1206.
- Ward, D. E. and Hardy, C.C. (1991). Smoke emissions from wildland fires. *Environmental International*, 17, 117-134.
- Westerling, A.L., Hidalgo, H.G., Cayan, D.R., and Swetnam, T.W. (2006). Warming and earlier spring increase western U.S. Forest wildfire activity. *Science*, 313, 940-943.
- Yavapai County. (2006). *The Verde Valley Regional Land Use Plan*. Prepared by Community Sciences Corporation & Verde Valley Technical Advisory Committee. Prescott, AZ: Yavapai County.

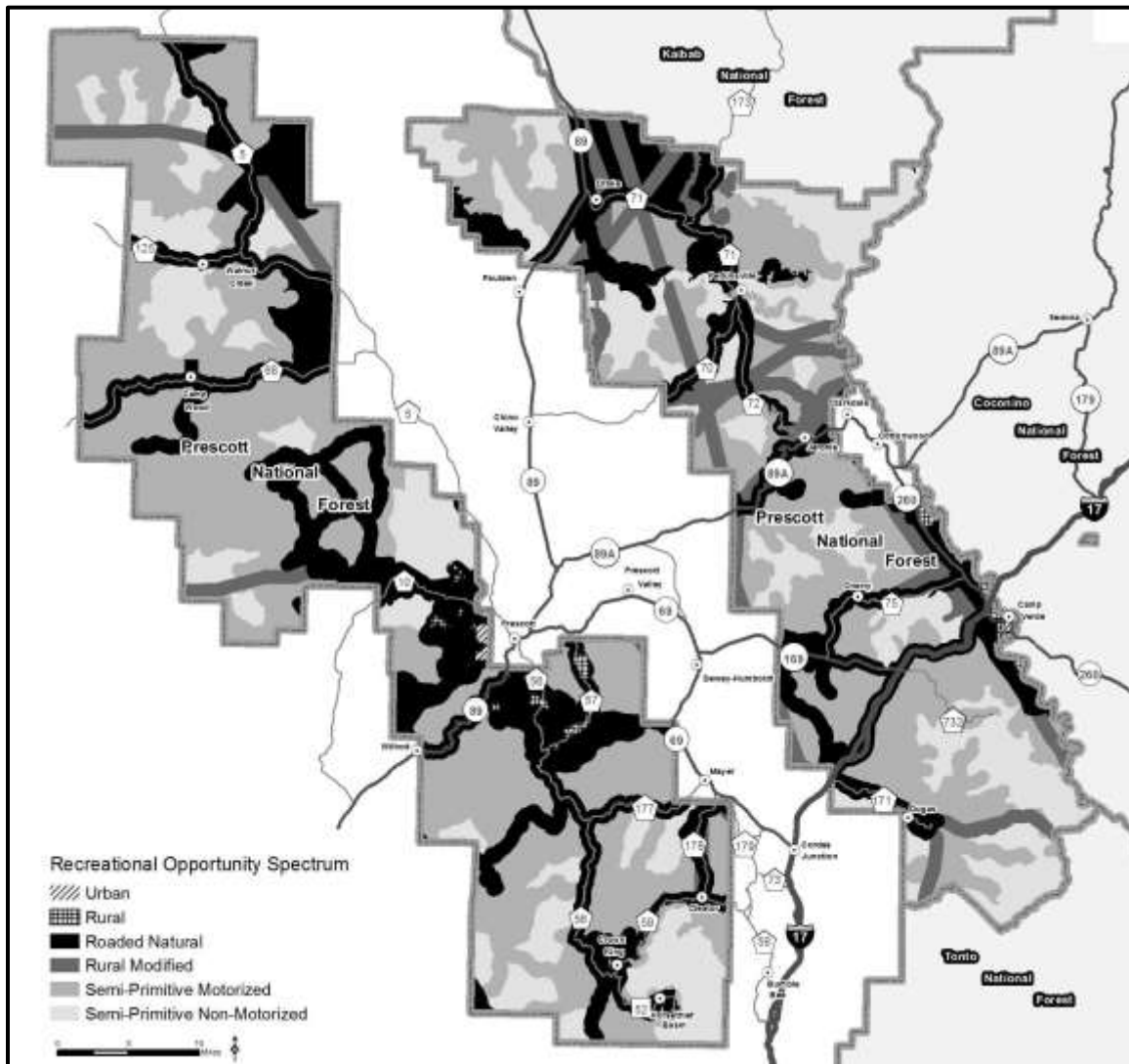
Appendix A. Maps

Map 1. Potential natural vegetation types (PNVTs) on the Prescott NF

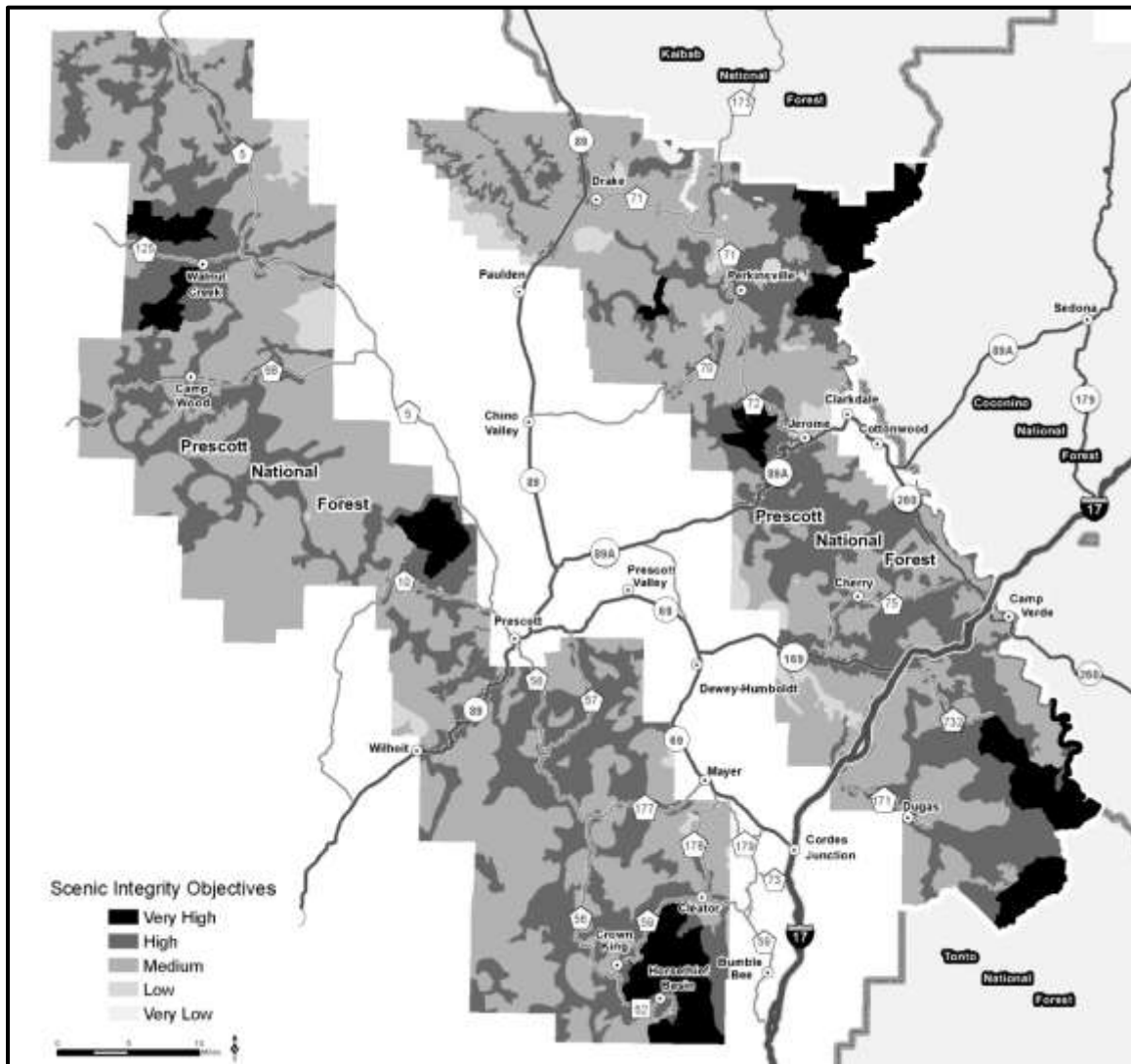




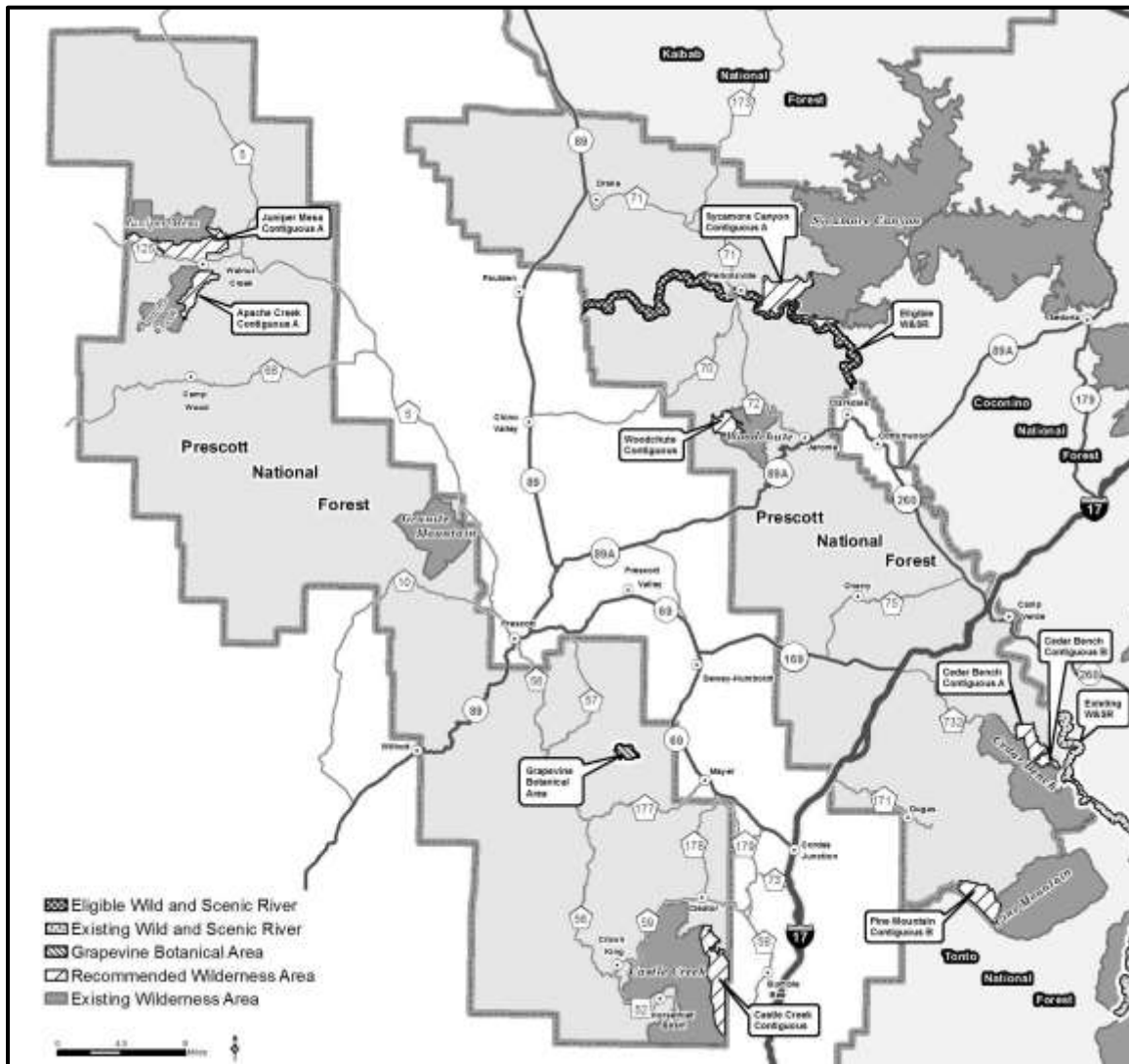
Map 3. Recreation opportunity spectrum (ROS) on the Prescott NF



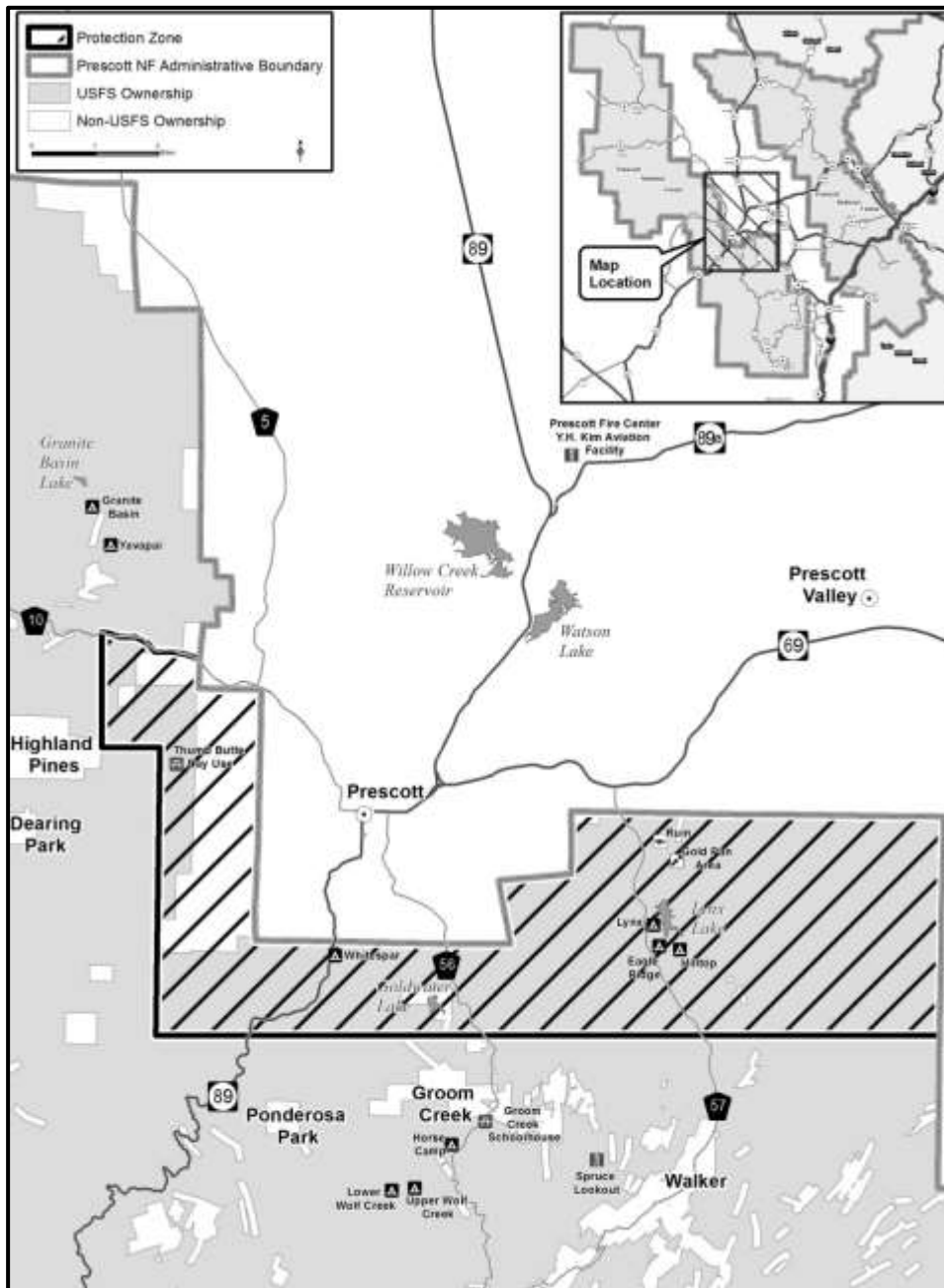
Map 4. Scenic integrity objectives (SIOs) on the Prescott NF



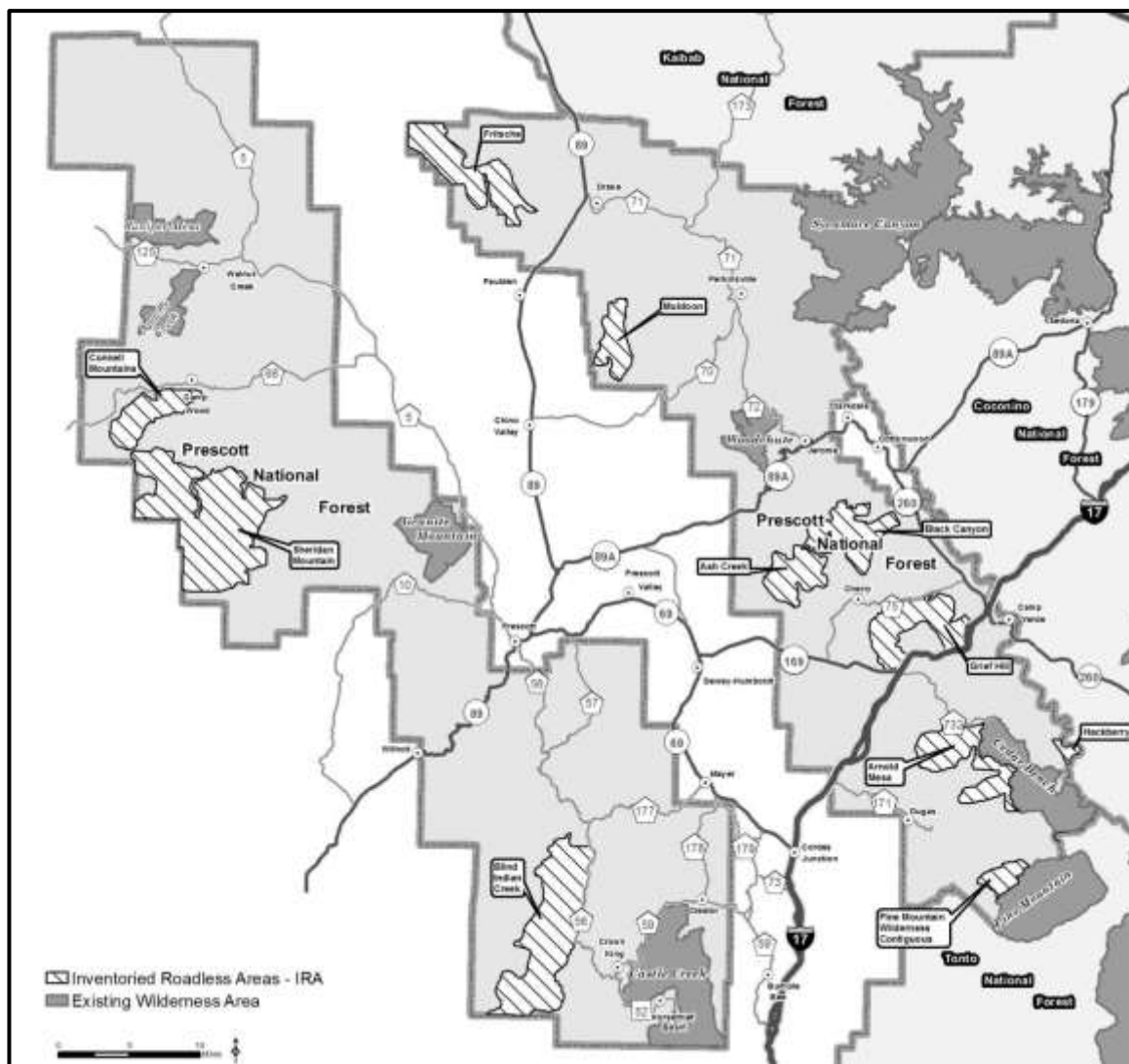
Map 5. Special areas on the Prescott NF



Map 6. Strategic fire management response on the Prescott NF



Map 7. Inventoried roadless areas (IRAs) on the Prescott NF



Appendix B. Proposed and Probable Management Practices

Introduction

This appendix describes proposed and probable management practices that may take place on the Prescott NF at the project or activity level during the planning period to help maintain existing conditions or achieve the desired conditions described in the plan. These practices are not intended to be all-inclusive, nor are they intended to be decisions. They are simply projections of what actions may take place in the future. A plan amendment is not required to change or modify any of these proposed practices; instead, they can be updated at any time through an administrative correction of the plan.

Management Approaches

Management approaches are not part of the plan components or decisions but are expressions of intent for how the Prescott NF will likely apply aspects of future management. Management approaches are also based on public feedback the Prescott NF received on the draft plan regarding suggested methods for carrying out activities. Therefore, this section has been added to reflect our intent and those suggestions.

Collaboration/Volunteers

There are many who have suggested that they would like to assist with aspects of national forest management. The Prescott NF intends to create increasing opportunities for volunteers and partners to be more active as part of national forest management. One area where this approach could work well is in natural resource and heritage education and interpretation. Citizen involvement would also benefit the Prescott NF by increasing contact with recreation visitors to encourage appropriate behavior. Assistance with plan monitoring is also a possibility. Finally, collaborative methods with interest groups and volunteers are ideally suited to addressing the problem of dumping trash, appliances, etc., on the Prescott NF, including the collecting and disposing of dumped material.

Recreation Strategy

The Prescott National Forest initiated a sustainable recreation planning process in September of 2009 with the goal of establishing a landscape scale “all hands all lands” approach to recreation management. This process would address common recreation challenges and enhance the ability of land managers, communities, and forest visitors to jointly implement shared recreation goals.

Existing collaborative groups interested in recreation agreed to lead this effort. The Prescott NF was divided into three geographic zones that were based on social network mapping. The Upper Agua Fria Watershed Partnership (UAFWP) took the lead in the southern—or gateway—zone; the Prescott NF Stewardship Forum represents the northern and western sections of the forest, including the area around Prescott known as the Prescott Basin; and the Verde Valley, on the east side of the Prescott NF, is represented by the Verde Front Group. An areawide multistakeholder coordination team has been leading the process.

Community meetings were held in each zone to learn more about local recreation interests and from the results of these meetings the zone leadership teams developed a vision, goals, and

strategies for the area and the communities in and around the Prescott NF. This input was incorporated into the revision of the “Prescott National Forest Land and Resource Management Plan.”

The vision that was developed states, in part, that “...through ongoing dialogue among land managers, recreation providers, and communities, a thoughtful and sustainable balance of social, economic, and environmental benefits will be achieved.”

The results of this collaborative effort include a prioritizing of the strategies, establishing a recreation coalition plan, and sharing of the results and initial strategy implementation proposals with local communities. The meetings are open to all who wish to improve recreation in the area, and the group would like to expand participation to include more members of the public, other key State and Federal agencies, and more representatives from local jurisdictions.

Recommended Wilderness Areas

Per Wilderness Guideline 10 (Guide-Wild-10), Recommended Wilderness Areas are managed to maintain their wilderness characteristics. Activities with short term (less than 2 years) impacts to the wilderness character may be considered when weighed against long term (10+ years) benefits. Greater support is given to those activities that trend the Recommended Wilderness Areas towards Desired Conditions and promote the viability of protected and otherwise desired native species. Generally, motorized access is not allowed, but exceptions may be made by the Responsible Official on a case-by-case basis if it is necessary to an activity that must occur in a Recommended Wilderness Area. The following constitutes general guidance for activities in Recommended Wilderness.

Access

Aircraft. Overflights are allowed. There are no authorized landing strips or sites in Recommended Wilderness and none will be constructed. Landing an aircraft in a Recommended Wilderness should be on an emergency basis. Any refueling of aircraft in Recommended Wilderness, or anywhere else on the forest, must be coordinated with the Forest Service and requires certain fuel handling protocols.

Emergency Access. Emergency access by law enforcement officers using a motorized vehicle is allowed in Recommended Wilderness. Immediate threats to human health and safety constitute emergencies.

Recreational Access. Recreational access in Recommended Wilderness must follow the guidance found in Recreation Standard 1 (Std-Rec-1). According to the Prescott NF Motor Vehicle Use Map (MVUM), driving up to 300 feet off of a system road for dispersed camping is allowed. Other motorized recreational access is not allowed. Travel by Off-Highway Vehicles (OHVs) is subject to the same limitations as access by full-sized vehicles.

Roads and Motorized Trails. There are no system roads or motorized trails in Recommended Wilderness. No new permanent roads will be constructed. If motorized access is determined to be necessary, a temporary route may be developed. Temporary routes should follow a route that is

least damaging to soils and vegetation and its impacts should be rehabilitated to as natural a condition as possible after use.

Research

Research using mechanized or handheld motorized equipment is allowed and should be coordinated with the Forest Service. Research using

motorized vehicles is generally not allowed but may be approved on a case-by-case basis if it is deemed necessary by the Responsible Official.

Vegetation Management

Thinning and use of prescribed fire in Recommended Wilderness is allowed only to trend towards or achieve desired conditions. Treatments should be designed to minimize the appearance of human intervention.

Structures

Generally, new construction is not allowed in Recommended Wilderness. If the case can be made why a structure should be in Recommended Wilderness, that structure should use native materials and be designed to blend with the scenery and minimize the man-made appearance. Maintenance of existing structures in Recommended Wilderness may be allowed using motorized or mechanized equipment, if necessary.

Southwestern Region Strategic Action Plan

The Prescott NF strategic action plan (SAP) is a process for identifying, characterizing, and prioritizing the landscapes on the Prescott in preparation for restoration efforts. This process would adapt the methodology and format of the watershed condition framework assessment to determine which watersheds on the Prescott NF are in need of restoration. The SAP will involve collaboration efforts with partners, resource specialists, scientists, and the public throughout the process to help identify important aspects of the landscapes and determine restoration priorities.

Cooperation with Tribal Groups and Agencies

Heritage

Most heritage resource management is guided by laws, existing regulations, and Forest Service policy. For that reason, few plan components are found in the revised plan that relate to such management. However, heritage resources management will be consistent with the State cultural resource plan and planning activities of the State Historic Preservation Officer, as well as coordination with other tribal, State, and Federal agencies. This could include periodic meetings, data sharing, coordination on National Register nominations, interpretation, site protection, and participation in the State heritage resources planning process. In addition, American Indian tribes, communities, and nations will be consulted when heritage resources having religious or traditional cultural values for living communities of American Indian tribes may be present. These communities or tribes will be consulted concerning location and importance of those resources and alternatives for protecting them.

Bureau of Land Management

Arizona is 1 of 19 states where one may locate mining claims or sites. The Forest Service manages minerals found on the surface of National Forest System (NFS) lands and the Bureau of Land Management (BLM) is responsible for subsurface minerals on NFS and BLM lands. Therefore, if the Forest Service desires to have an area withdrawn from mineral entry, it requests such a closure from the BLM. Examples of areas which are withdrawn from mineral entry include: a designated wilderness, a portion of a designated wild and scenic river, or a designated recreation area. For areas not withdrawn, the Forest Service may apply mitigations for mining, but it may not prohibit mining.

Arizona Game and Fish Department and U.S. Fish and Wildlife Service

The Arizona Game and Fish Department (AZGFD) directly manages wildlife populations; while the Forest Service manages wildlife habitat. The U.S. Fish and Wildlife Service (USFWS) is the agency that oversees direct management of animals and fish across the Nation, including administration of the Endangered Species Act of 1973 (P.L. 93-205). The Prescott NF will cooperate with one or both of these agencies in order to carry out management activities. For example, management of native fish could involve removal of nonnative species, as well as adjustments in habitat, which could require working with AZGFD or USFWS. The Prescott NF also expects to coordinate with AZGFD in development of wildlife linkages (movement corridors) within the Prescott NF so that local populations of species, such as pronghorn antelope, remain viable where habitat is being fragmented. Finally, the Prescott NF intends to facilitate partnerships that lead to maintenance of year-round water structures for wildlife.

Watershed Management

In several plan components, high priority watersheds or high risk riparian areas are referenced (see objective Obj-18 in chapter 3). The intent of the plan is to address the needs of these priority watersheds by: (1) classifying watershed condition across the Prescott NF including the determination of potentially high risk riparian areas and (2) implementing integrated enhancement activities with emphasis on priority watersheds. In addition, partnership opportunities to cooperate with others to accomplish monitoring are expected to be explored.

Open Space

The Forest Service intends to participate in meetings hosted by the Verde Valley Land Preservation Institute regarding the East Mingus Land Exchange Task Force. The Verde Valley Land Preservation Institute was formed after the Verde Valley Forum on Open Space took place. The purpose of the group is to acquire, manage, and enhance the natural open space in the Verde Valley. East Mingus lands occur on steep slopes approximately between Jerome and Clarkdale and south of Jerome.

Probable Projects

Plan Objectives

The objectives in chapter 3 represent proposed projects or activities intended to be accomplished over the life of the plan. These are outlined in the table below.

Table 1. List of plan objectives

Project/Activity	Timeframe to Complete
Vegetation	
Allow or introduce wildland fire on 25,000 to 65,000 acres of the Semi-Desert Grassland PNV	10-year period following plan approval
Allow or introduce wildland fire on 1,000 to 5,000 acres of the Great Basin Grassland PNV	10-year period following plan approval
Use mechanical treatments, wildland fire, or browsing by domestic goats on 20,000 to 90,000 acres of the Juniper Grassland, Piñon-Juniper Evergreen Shrub, and Piñon-Juniper Woodland PNVs	10-year period following plan approval
Use wildland fire, mechanical treatments, or domestic goats on 40,000 to 100,000 acres of the Interior Chaparral PNV	10-year period following plan approval
Thin or harvest 2,500 to 8,000 acres and introduce or allow wildland fire in 25,000 to 50,000 acres in the Ponderosa Pine-Gambel Oak and Ponderosa Pine-Evergreen Oak PNVs	10-year period following plan approval
Treat at least 50 percent of nonnative invasive nonnative plant species populations within 1 to 2 years of detection	10-year period following plan approval
Recreation	
Add 1 to 2 developed recreation areas	10-year period following plan approval
Create up to 4 designated dispersed camping areas	10-year period following plan approval
Reduce the backlog of needed maintenance (i.e., deferred maintenance) at developed recreation areas by 50 to 60 percent from baseline levels	10-year period following plan approval
Develop and implement at least 3 additional strategies to raise awareness of responsible target shooting practices within the Prescott NF to promote visitor safety	10-year period following plan approval
Construct or improve the facilities at 5 to 20 trailheads	10-year period following plan approval
Maintain 10 to 20 percent of signage	Annually
Work with partners to maintain and enhance recreational fishing opportunities in 2 lake/pond sites	10-year period following plan approval
Develop 2 to 5 additional methods for providing visitor information and education	10-year period following plan approval
Mark boundaries of portions of 2 to 5 wilderness areas where risk of motorized or mechanized access is high	10-year period following plan approval
Protect, relocate, or rehabilitate 2 to 5 recreation areas or locations (including trails) that show evidence of resource damage	10-year period following plan approval
Implement 5 to 10 management actions on trails to meet desired conditions	10-year period following plan approval

Project/Activity	Timeframe to Complete
Watershed Integrity	
Within each high priority watershed, implement 5 to 50 essential projects that improve or maintain watershed conditions	10-year period following plan approval
Within 2 to 3 years of detection, implement projects to counter 1 to 3 critical threats to riparian system functionality	10-year period following plan approval and within 2-3 years after detection
Repair or relocate 20 to 100 miles of National Forest System roads or trails that impact watershed integrity	10-year period following plan approval
Obliterate, recontour, or revegetate a minimum of 10 miles of unauthorized routes that are impacting watershed integrity	10-year period following plan approval
Improve 15 to 25 stream or drainage crossings associated with roads or trails to facilitate flow and sediment transport	10-year period following plan approval
Maintain or enhance 25 to 55 discrete sites that are groundwater dependent ecosystems containing seeps and springs	10-year period following plan approval
Aquatic and Terrestrial Wildlife Habitat	
Restore native fish species to 2 to 3 stream reaches	10-year period following plan approval
Modify or remove at least 3 to 5 miles of fence to facilitate pronghorn antelope movement	10-year period following plan approval
Treat 15,000 to 90,000 acres to improve pronghorn antelope habitat quantity and quality	10-year period following plan approval
Treat 2 to 3 areas to facilitate pronghorn migration	10-year period following plan approval
Improve up to 25 existing and 5 new water developments for wildlife	10-year period following plan approval
Open Space, Land Adjustment, and Scenic Values	
Act on up to 10 opportunities, as presented and feasible, to acquire lands within and around the Prescott NF to retain open space values	10-year period following plan approval
Identify and act on up to 10 opportunities to secure legal access to areas where historic access to the national forest has been lost	10-year period following plan approval
Apply for 8 to 10 in-stream flow water rights to enable the Prescott NF to provide for channel and floodplain maintenance and recharge of riparian aquifers	10-year period following plan approval

Timber Sale Schedule and Allowable Sale Quantity

The timber sale schedule for the Prescott NF is formulated to provide a nondeclining flow of timber as specified in the 1982 Planning Rule provisions (Section 219.16). The quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade. For any given decade, the planned sale and harvest is not greater than the long-term sustained yield capacity of the suitable timber land.

Table 2 below outlines the expected maximum harvest volumes for the Prescott NF for the 10 years following plan approval. The total of these volumes is the allowable sale quantity (ASQ). For the first decade, the ASQ is 40,447 ccf (hundred cubic feet).

Table 2. Expected maximum harvest levels

Vegetation Type	Acres	Pulp (ccf)	Saw (ccf)	Total (ccf)
Ponderosa Pine-Evergreen Oak PNVT	5,000	4,987	13,569	18,556
Ponderosa Pine-Gambel Oak PNVT	3,000	5,613	16,278	21,891
Totals	8,000	10,600	29,847	40,447

Yavapai County Resource Advisory Committee

The Yavapai County Resource Advisory Committee (RAC) was formed in 2010 as a part of the Secure Rural Schools Act (SRSA) of 2000 and as amended in 2008 (P.L. 110-343). The RAC recommends projects for Federal funds which benefit resources on public lands (e.g., watersheds, habitats, roads, trails). Per the requirements of the SRSA, a project can be funded if it is compliant with laws and regulations, consistent with the forest plan, and properly submitted and recommended by the RAC.

The following table is a sampling of the projects that were approved and funded by the RAC. These projects are examples of the type of activities which may take place on the Prescott NF in the future. They represent ways in which the Prescott NF can address the needs for change, achieve objectives, and move towards the desired conditions outlined in the plan.

Table 3. Examples of projects approved by the Resource Advisory Committee

Type of Project	Description	Needs for Change Addressed¹
Youth Conservation Corps (YCC) for Yavapai County and the Prescott NF	YCC crews will carry out various projects to improve forest infrastructure and enhance ecosystems such as trail maintenance, trash removal, habitat restoration, noxious weed removal, and reestablishment of native species.	1, 2, 3, 4
Forest health treatments	Forest Service will prepare and implement a contract to thin approximately 500 acres of ponderosa pine forest in an area adjacent to subdivisions in the Prescott Basin.	1, 2
Community Restitution Program	Court ordered probationers will carry out various projects to improve lands within Yavapai County (including the Prescott NF) such as trail maintenance and trash removal.	1, 2, 3
Volunteer Stewardship of Natural and Recreational Resources of the Prescott NF	A volunteer coordinator will work to engage volunteers for a range of natural resource and recreation projects on the Prescott NF such as trash removal, invasive species monitoring and removal, and development of an OHV ambassador program.	1, 2, 3, 4

Appendix B. Proposed and Probable Management Practices

Type of Project	Description	Needs for Change Addressed ¹
Riparian Habitat Improvement in the Upper Verde River Wildlife Area/Headwaters	The Nature Conservancy (TNC) and Arizona Game and Fish Department will remove riparian invasive plants and nonessential fencing from the Upper Verde River Wildlife Area and TNC's Verde Springs Preserve.	1, 4
Verde Valley Youth Restore Native Habitat on Federal, State, and Tribal Lands	A YCC crew will carry out various projects to restore riparian ecosystems along the Verde River and its tributaries such as removing invasive plants and reestablishing native plants.	1, 4
Stewards of the Wild	A volunteer coordinator will work to engage volunteers of the Wilderness Stewards Program for projects that will improve ecosystem and watershed health within the Prescott NF's eight wilderness areas such as trail work, habitat restoration, and control of noxious weeds.	1, 2, 3, 4
Verde River Greenway Habitat Improvement Phase I	Contract crews and volunteers will remove invasive plants along the Verde River near its confluence with Oak Creek and near its confluence with Clear Creek.	1, 2, 3, 4
Williamson Valley Road Improvement	Yavapai County Public Works and contract crews will improve the quality and drainage of the Williamson Valley Road by laying down material, grading, and installing two culverts.	2
Verde River Boater and Floater Recreation Guide	Volunteers and a GIS contracted consultant will document, design, and publish a Verde River Recreation Guide (from Bridgeport to Beasley Flats) in print and electronic formats.	3
Horse Camp Corrals	Back Country Horsemen of Central Arizona and the Forest Service will purchase and install a total of 6 corrals for the Groom Creek Horse Camp.	3
Hike/Equestrian Access Gates Excluding Motorized Vehicles	Back Country Horsemen of Central Arizona will purchase 10 gates specifically designed to exclude motorized vehicles but allow hiking and equestrian users access and make these gates available for installation on public or private lands.	1, 3

¹ Needs for change: (1) restore ecosystems, (2) provide or sustain watershed integrity, (3) provide sustainable and diverse recreation opportunities, (4) provide native fish habitat, and (5) retain open space values.

Appendix C. Community Landscape Vision Statements

Introduction

Community landscape vision statements were developed as a part of early plan revision efforts to better understand local citizens' future vision for how areas of the Prescott NF near their communities should look and the ecological, economic, and social resources they should provide. During winter 2007 to spring 2008, the Prescott NF held a series of community vision workshops for the following communities neighboring the forest: Ash Fork, Black Canyon City, Castle Hot Springs, Cherry, Cottonwood/Verde Valley, Crown King, Jerome, Mayer, Paulden, Prescott/Prescott Valley/Chino Valley, and Wilhoit. Within these workshops, diverse groups of citizens shared their ideas, discussed differences, identified issues, learned from one another, and discovered many common interests. Dialogue between citizens and Forest Service plan revision employees was facilitated by a third party, and the resulting vision statements were drafted by community volunteers.

The Prescott NF used these vision statements to guide the development of plan components (e.g., desired conditions, standards, guidelines) for specific management areas in the revised plan such as the Agua Fria, Prescott Basin, and Verde Valley Management Areas. Summaries of these vision statements are captured in chapter 5 of the plan; however, they are included to provide context for the subsequent management area plan components and do not constitute actual plan direction. The vision statements in their entirety are displayed, by community, in *italic* text in the following paragraphs.

Community Landscape Vision Statements

Ash Fork

Ash Fork has successfully managed change to maintain its small town character while reviving the bustling community of the 1950s.

The community is still authentic Route 66, a western town where nature's experiences abound. The character has been kept through a strict adherence to a community based set of values and good communication.

We value:

- *Cleanliness*
- *History*
- *Respect*
- *Quality education and healthcare*
- *Safety*
- *Families*
- *A place where individuals can still make a difference!*

Black Canyon City¹

The ultimate desire of the citizens of Black Canyon City is the preservation of the rural nature of our community and the natural beauty of our surroundings. Coincidental to that desire is the retention of open space to be used for designated public recreational activities. The community would like a sufficient amount of BLM lands surrounding the town dedicated to future development of public trails, nature preserves, and riparian areas. A sufficient amount of land would be a minimum depth of 5 miles from the private property lines around the community. The State Trust Lands within that area would be purchased by BLM for inclusion in the designated open space.

The community would like the viewshed protected from the town to the mountaintops in all directions. Limiting further commercial or residential development will also help protect the limited water supply in our area. In support of these considerations, many residents have expressed an interest in working with BLM and other communities to assure continued protection, cleanliness, access, and enjoyment of the public lands in our area.

Castle Hot Springs¹

Our community has a vision to maintain our remote yet reachable lifestyle, yet we also recognize that recreational use will increase and needs to be accommodated. This is not only an enforcement issue for the BLM, Yavapai and Maricopa Counties, and the city of Peoria, but also an increasing social issue for our community. With this in mind, our community embraces the following as a means to maintain our way of life, as well as deal with increased outside pressure:

- *Existing, historically described roads on BLM land must be mapped, legally described, and dedicated so as to ensure that residents and property owners can continue to access and use their lands into perpetuity.*
- *We need to seriously consider a recreational-user fee, earmarked for the local community, imposed on nonresidents to help fund the substantially increasing costs associated with recreational uses.*
- *Existing roads (whether public, private, or easement) located in areas subject to occasional inundation will be exempt from permitting requirements for continued maintenance in this area.*
- *In considering changes in the use of private property in this area, the county or city will not be permitted to consider Federal goals and objectives for the surrounding property.*
- *All Federal lands in the Lake Pleasant area are to be treated the same as private property with regard to obtaining new or perfecting existing legal and physical access.*
- *Mineral rights retained by BLM in this area under private property will be transferred gratis to the surface owners.*
- *We want a community-based stewardship group to proactively plan and later provide expertise, labor, and cultural wisdom with BLM on all recreational uses, including but not limited to nonmotorized and motorized trails.*
- *Many of the existing water wells are in the “younger alluvium” as currently defined by recent case law.*

¹ Statements for Black Canyon City and Castle Hot Springs were taken from the vision statements in the Bureau of Land Management “Agua Fria and Bradshaw-Harquahala Draft Resource Management Plan” (2005).

- *Encourage the reestablishment of a northern loop road around Lake Pleasant linking to Table Mesa Road at I-17 for health/safety/welfare purposes.*
- *Target shooting needs to be encouraged in appropriate and safe areas. Our community is willing, as a stewardship group, to counsel BLM on appropriate areas for target shooting.*
- *Encourage appropriate discreet cell site development to provide for better law enforcement telecommunications.*

Cherry

Maintain community outreach programs to foster voluntary community involvement, input, and feedback to inform policy development and facilitate implementation.

Utilize communities as onsite resources to monitor both natural and human induced occurrences in the national forest setting.

Recognize that private interests maintain a tangible stake in best outcomes strategic planning.

Whenever desirable and feasible promote partnerships between local communities, municipal, state and Federal agencies to formulate and achieve goals.

Maintain the highest standards of ethical conduct as trustees of a national asset.

Identify controversial issues and attempt resolution through public educational campaigns.

It was noted that the national forest is the backyard and garden of all citizens and most individual operators would not damage their own personal property in the way they do in the national forest setting. A public educational campaign to increase environmental awareness.

Cottonwood/Verde Valley

The Verde Valley landscape, west of the Verde River, includes the city of Cottonwood and the towns of Jerome, Clarkdale and Camp Verde, each with their own identity and community character. Intermingled are unincorporated residential neighborhoods, farms, and ranches. All are buffered by Prescott National Forest lands, which provide natural open spaces and big mountain views. The Black Mountain Range, featuring Mingus Mountain and Woodchute Wilderness on the north and Squaw Peak and Cedar Bench Wilderness to the south, forms a scenic backdrop for the entire valley.

These wide open spaces and urban interface areas are highly regarded by communities for their natural and cultural resource values, and their social and economic benefits. They are free of litter and illegal uses; and they are protected from wildfire. In addition to providing a panoramic viewscape, the forest protects the region's watershed by storing groundwater and sustaining renewable and nonrenewable resources for future generations.

Forest and range vegetation are healthy, providing habitat diversity, forage for grazing animals, and natural corridors for wildlife. The Verde River flows year round through a lush riparian greenway, providing water for agricultural production, habitat for animals, and a large variety of recreational opportunities. All recreationists—including anglers, birders, hunters, hikers, bicyclists, equestrians, gun enthusiasts, river runners, hang gliders and off-highway vehicle drivers—respect and utilize the forest in harmony with each other and the environment.

A system of nonmotorized multiuse trails connects communities, allows access to public lands and encourages people to improve health and vitality by exploring the outdoors. Roads and

selected areas are managed for responsible use of off-highway vehicles, while other areas are set aside for protection or managed for nonmotorized uses.

Especially important are the geologic, prehistoric, and historic attributes of the Verde Valley. People—including the Sinagua, Yavapai-Apache, miners, pioneer settlers and today's residents—have occupied the valley for over 900 years. Visitor centers and educational activities that raise public awareness of cultural values attract locals and tourists alike.

Federal, State and county agencies work cooperatively and effectively with neighboring municipalities, groups, and individuals to protect public lands and enforce the rules that govern them.

Crown King

To be known as a community that values the heritage and natural beauty of this region. That encourages and provides equal access to services, amenities, and recreational activities. That sustains and provides protection to the sociological, economical, and ecological health of public and private lands, through enforcement of the rules that govern them. To be a community that values cooperation and participates in effective communication with Federal, State and local agencies and that will contribute time and resources to enhance the safety and security of residents, property owners, and guests of the Crown King area.

- *Active forest management through agency/community collaborative efforts to help maintain forest health and reduce danger of catastrophic fires.*
- *Adequate public facilities to accommodate the many visitors that frequent Crown King and the surrounding area.*
- *Increase the number of improved campsites, including existing and previously closed campsites.*
- *Regular maintenance of all roads to provide safe public accessibility and evacuation if needed.*
- *Provide and maintain adequate and designated motorized and nonmotorized trails.*
- *Consistent and timely enforcement of existing laws and rules that govern use of public and private lands.*
- *Preservation of the unique history of Crown King and the Southern Bradshaws as an historic mining area.*
- *Cooperation between the community and the Forest Service will help to maintain the ecological, economical, and sociological health of Crown King and the surrounding area.*

Jerome

Looking ahead 50 years, we, the community of Jerome, envision a community landscape where our views are maintained views, air quality protected, and open space surrounding Jerome preserved.

We envision areas adjoining our town where we can go to escape the traffic noise of our busy community—motorized vehicles, recreational shooting, and other negative impacts on our town.

We envision retaining the natural environment as close to our town limits as possible, thus ensuring nearby places of refuge to enjoy the outdoors and reflect on the beauty of the Prescott National Forest (PNF).

We envision a preserved landscape free of commercialization and development, and feel strongly that existing PNF boundaries be kept intact.

We hold a strong sense that PNF should focus on proactive protection of natural and cultural resources, ensuring their existence for future generations.

We envision the PNF actively working to minimize activities that pose a threat to wildlife and low-impact recreation (i.e., hiking and horseback riding).

Specifically, we would like the PNF to strictly limit OHV and shooting activities, as well as provide programs that educate and inform these users to reduce reckless practice of these sports.

Finally, we envision that the PNF will have the capacity to enforce existing laws.

Mayer

As stewards of the upper Agua Fria Landscape, which provides beauty, bounty and sustenance, we envision a sustainable future of health and continued abundance through considerate, wise use of its resources.

Good water quality and adequate water supply in our watershed directly affects our success and survival. We encourage and support projects to minimize runoff of rainfall and prevent erosion, increasing water retention within our watershed. Along riparian zones, we support projects to preserve topsoil, control invasive plant species, and maintain plant and animal diversity. Projects which slow perennial streamflow and control runoff conserve land which would otherwise disappear. Low impact recreational use is to be encouraged in these areas.

Healthy forests and rangelands are keys to sustainability. We support least impact timber management practices and managed grazing to control excess combustible vegetation. We support ranching practices that utilize renewable forage resources in a sustainable fashion, and that develop and maintain range improvements. Ranching and farming allow for preservation of open space, limiting housing and industrial encroachment.

We support projects to ensure stable, noninvasive wildlife populations. Maintenance and development of permanent water resources, interagency cooperation on hunting and education, and enforcement of allowable motorized vehicle access provide us with the open space needed to respectfully experience wildlife, especially important in times of drought. We support efforts to control the invasion of feral hogs, and request continued research into the effects of the increasing population of elk and its expanding habitat in our watershed. We recognize fire as a management tool and respect its role in the evolution of the forest and a critical component of forest health. We desire continued research into the potential positive and negative effects of fire on the lands. Recreational opportunities abound on our forest. We support and desire the maintenance of trails and signage, control of trash accumulation and illegal dumping, and designation of motorized vehicles to roads and specific "OHV use areas."

The increasing demand on our natural resources compels us to keep abreast of conservation practices that prove to be more efficient, sustainable, nonpolluting, and respectful of diversity. As these improved practices become available, we support their timely implementation, with our vision remaining optimistic for the future.

Paulden²

Paulden residents have made a strong statement that the community they desire will be rural in character and lifestyle. But it is in the details of that statement that defines what “rural” and “character” mean. For Paulden, that means low density in all aspect of the community; housing, traffic, commercial uses, etc. They note that it is critical to maintain the historic 2-acre minimum lot zoning in all future development, planned or not. Commercial and residential development should always be of a small scale, even if that means residents must travel to other parts of the Prescott area for many commercial goods and services. There is no expressed feeling that Paulden needs a “downtown.” Although there is a concern for maintenance and reduction of trash and clutter, many citizens also appreciate the dirt roads that are characteristic through much of the area.

Paulden residents have already taken some steps to assure the character of their community. First, by deciding to remain unincorporated, the community will be working with Yavapai County officials, departments, and zoning and development codes to guide its growth. Then by requesting a community plan be prepared, they will receive official recognition by county, State and Federal agencies of the specifics of how Paulden is to grow.

But beyond density, the sense of openness is critical to the sense of remaining rural. Paulden is fortunate to be surrounded by State and Federal lands. They not only help set the character of the community, but offer close by recreational opportunities. Maintaining these lands and access to them, thus, is very important to this community. Also, open areas and the feeling of “space” distinguish Paulden from other, more built-up communities. Access throughout the area for horseback riding, hiking, taking the dogs out for walks and rides allow residents to take advantage of the openness the community enjoys.

Rural communities come from an agricultural and ranching heritage and Paulden’s heritage stretches for more than a century. Paulden feels it is fortunate to have working ranches adjacent to it and has maintained the rural traditions of providing homes for horses and many animals as part of the daily life of residents. Preserving both the ranches and appreciation for animals is a goal almost universally stated by residents.

Finally, Paulden enjoys the benefits of pure environment, bountiful fresh water, clear skies, and starry nights. These all contribute to the sense of a rural community and maintaining them is a priority to be met in the plan. Foremost among these is a protection of the community’s water supply. Minimizing night lights, protecting the water supply, and avoiding any sources of air pollution are critical to maintaining this environment.

Challenges: In its visioning process, the community recognized there are challenges to be met if it is to achieve its goals in a general plan. Within the community there are areas that will need special attention, notably old platted areas with substandard sized lots, old manufactured homes that need maintenance, potential groundwater pollution and trash and litter. The community recognizes that it will need to partner with County and State agencies to be successful in improving these locations. Whether it is area-wide trash cleanup needs or reducing dust on the roads by ATC drivers, the plan must address methods to maintain and improve the environment of Paulden.

Of equal concern is the ability to preserve the underground aquifer that supplies water to residents. Residents are aware of the desirability of using this resource and that there are

² Statements for Paulden were taken from the draft “Paulden Community Plan” (2007).

challenges to ensuring the water supply remains available to residents living in the Big Chino basin. All efforts must be made to partner with groups working to accomplish this.

Finally, the Paulden plan needs to clearly state the unique vision for itself as a rural community and the elements that will maintain that vision. In order to maintain the character that many have found desirable here, residents accept several tradeoffs. The plan must express this balance so that as new residents consider Paulden as a home, they are aware of this character that has been chosen by Paulden residents and can accept it and help to reinforce and maintain it.

Prescott/Prescott Valley/Chino Valley

Overall Forest Health and Fire: The Prescott/Prescott Valley/Chino Valley community values the Prescott National Forest (PNF) for the many recreational, economic and ecological services that it provides. The natural beauty and rural character of the surrounding public lands are a vital part of this community. Our vision of those lands 50 years from now is that they remain in the public domain, a resource shared across generations. We envision a forest where...

- *Diverse, primarily native vegetation will protect soil from erosion, both in upland and riparian areas. Healthy wildlife populations will play an integral role in these ecosystems.*
- *The risk of forest fires will be reduced in the wildland-urban interface where the forest and community partners will actively work to reduce hazardous fuel loads. Ecologically, socially, and economically sustainable uses of forest products will support these projects.*
- *Active forest management, with an emphasis on restoration of natural ecological processes, developed through agency-community collaborative efforts, will help maintain forest health and reduce the risk of stand-replacing wildfires forestwide.*
- *All of this, in turn, will promote healthy watersheds where storage of water in the soil, stream courses and local aquifers is maximized.*
- *The healthy forest will contribute to global sustainability and will be a natural, trash-free place with quiet settings.*
- *The PNF will have sufficient financial resources to meet its management obligations, including adequate law enforcement.*

Recreation: Through ongoing dialogue among land managers and communities, a thoughtful balance will be achieved between the need for access and the protection of forest resources and aesthetics. In our vision, a comprehensive recreational travel plan regionwide will protect forest health and promote robust economies in our cities and towns. The Prescott National Forest (PNF) will maintain a comprehensive system of meaningful and sustainable trails, trailheads, and designated campsites. Low maintenance facilities built collaboratively among citizens and agencies will be valued by all. The PNF, with user participation, will minimize user conflict through enhanced separation between nonmotorized and multiuse trails. The trails will be enjoyed by hikers, equestrians, bicyclists, motorized vehicle operators, and hunters, with a reasonable amount of access to all user groups. Cross-country motor vehicle travel will continue to be prohibited.*

Economic: All economic activities on the forest will be managed to minimize forest damage while promoting healthy ecosystems and public safety. Grazing allotments will be adaptively managed to promote healthy and productive grasslands and watersheds, while supporting ranch families who are good stewards of the land and represent an important part of our local history and

culture. The PNF will continue to support a range of activities that directly contribute to local economies.

Community Involvement/Partnerships: Citizens will recognize an ethical obligation to protect the forest for the future; this land ethic will be shared with all newcomers to the area. Vibrant partnerships with emerging or established community groups will enhance the Forest Service's ability to provide services, enabling a large group of citizen volunteers to respond to the needs of the forest, including trail maintenance, user education, and fire prevention. This informed, engaged citizenry—through a multiinterest nonprofit and/or stewardship group—will actively participate in an ongoing collaborative process of forest planning that ensures the PNF will be enjoyed by more generations to come.

**Unauthorized motor vehicle travel off of designated roads, trails and areas.*

Wilhoit

Wilhoit is rural in character with a strong desire to remain that way. We are surrounded by Prescott National Forest and State Trust Lands. Our quiet, private community has few public attractions and amenities. "Low impact" commercial growth might be welcomed on SR 89 (fuel pumps?).

The public areas surrounding our community should allow recreational access for all ages and physical conditions where practical. Example: Thunderbird Meadows access to FR 72.

Reasonable fees should be charged for access; the income earmarked for:

- *Forest Road maintenance*
- *Rules signage. Examples: "OHV allowed trails," "No litter," etc.*
- *Trails and water source access for horses*
- *Volunteer program for trail management*

Fire prevention is paramount and should be ongoing.

- *Continue prescribed burns and brush thinning around our community for fuel reduction. The north side of our community must be attended to next. Brush removed must be chipped or removed immediately after clearing.*
- *Manage the public areas to reduce fuel buildup. A clean forest makes for a safer community. Encourage the public to remove deadfalls for firewood after fires.*
- *Widen Highway 89 shoulder clearing.*
- *Widen the Forest Road system and trails for firebreaks.*
- *Enforce building codes to restrict structure density.*
- *Tougher law enforcement/greater punishments for those who start fires.*
- *Reforestation efforts should be stepped up.*
- *Plant seedlings to introduce more favorable varieties.*
- *Should be done soon after prescribed or involuntary burns.*
- *Better use of greater financial resources.*
- *How can we increase budget allotments for our desired community vision?*
- *More call boxes.*
- *Water reservoirs for fire fighting.*

- *Funding for our fire department.*
- *Interagency coordination.*
- *Federal – State – County (FSC) communication network to feed down to local level.*
- *FSC policy coordination.*
- *FSC plan parity.*

Appendix D. Index of Other Supporting Plan Documentation

The following is a list of documents which substantially contributed to development of the plan components (i.e., desired conditions, objectives, standards, guidelines, suitability, and monitoring) and/or are evaluations which were required by the 1982 Planning Rule Provisions. These documents are available on the Prescott NF plan revision Web site³⁵.

- Analysis of the Management Situation
- Ecological Sustainability Report
- Economic and Social Sustainability Assessment
- Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds on the Coconino, Kaibab, and Prescott National Forests
- Southwestern Region Climate Change Trends and Forest Planning
- Public Collaboration Report for Plan Revision
- Timber Suitability, Long-Term Sustained Yield, and Allowable Sale Quantity Report
- Range Capability and Suitability Determination Report
- Recreation Suitability Matrix
- Special area analyses (wilderness, research natural areas, wild and scenic rivers, etc.)
- Management indicator species (MIS) selection process
- Species viability reports
- Minimum Management Requirements
- Terrestrial Ecosystem Survey

³⁵ www.fs.usda.gov/land/prescott/landmanagement